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Resilient people, resilient planet: a future worth choosing

Note by the Secretary-General

1. In August 2010, on the basis of views expressed at the Summit on Climate Change, held on 22 September 2009, and inspired by the report *Closing the Gaps*, prepared by the Commission on Climate Change and Development, I set up a High-level Panel on Global Sustainability, co-chaired by Tarja Halonen, President of Finland, and Jacob Zuma, President of South Africa. It included 20 more eminent persons from around the world, not representing their countries of origin or organizations, which are indicated in parentheses below, but serving in an expert capacity: Sheikh Abdullah Bin Zayed Al Nahyan (United Arab Emirates), Hajiya Amina Az-Zubair (Nigeria), Ali Babacan (Turkey), James Laurence Balsillie (Canada), Alexander Bedritsky (Russian Federation), Gro Harlem Brundtland (Norway), Micheline Calmy-Rey (Switzerland), Julia Carabias Lillo (Mexico), Gunilla Carlsson (Sweden), Luisa Dias Diogo (Mozambique), Han Seung-soo (Republic of Korea), Yukio Hatoyama (Japan), Connie Hedegaard (European Commission), Cristina Narbona Ruiz (Spain), Jairam Ramesh (India), Susan E. Rice (United States of America), Kevin Rudd (Australia), Freundel Stuart (Barbados), Izabella Mônica Vieira Teixeira (Brazil) and Zheng Guoguang (China).

2. I asked the High-level Panel to reflect on and formulate a new vision for sustainable growth and prosperity, along with mechanisms for achieving it. I also asked them to be bold and think "outside the box", in order to put forward proposals that would make a difference in practice.

3. I am very pleased to be able now to transmit to the Member States the report of the Panel, entitled "Resilient people, resilient planet: a future worth choosing". The report sets out a comprehensive framework for advancing sustainable development in the context of numerous interconnected challenges that humanity is facing in the twenty-first century. Fully supportive of the paradigm introduced by the report of the World Commission on Environment and Development of 4 August 1987, entitled

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"Our common future" (A/42/427) — which approaches in an integrated way economic growth, social equality and environmental sustainability — the Panel's report makes a range of recommendations to take forward its vision of eradicating poverty, reducing inequality and making growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries (see para. 6 of the Panel's report).

4. The Panel's recommendations fall under three main headings: empowering people to make sustainable choices, working towards a sustainable economy, and strengthening institutional governance to support sustainable development. The Panel makes a total of 56 recommendations, many of which are addressed to Governments, some to the private sector and other stakeholders, and some to international institutions, including the United Nations and its Secretary-General.

5. The Panel has done excellent work, and I commend the full report and its recommendations to Member States for their consideration. In particular, I fully support the integrated approach that the Panel adopted with regard to issues of society, the economy and the environment. Fragmentation in terms of concepts, policies, practices and institutions has played a major role in bringing about the implementation gap that, we all acknowledge, exists in the area of sustainable development. We need much more coherent approaches and a much more integral understanding of interconnections in order to effectively address multifaceted challenges such as climate change, food and energy security, unemployment and the global financial crisis.

6. I will examine closely all of the Panel's recommendations and will respond with concrete actions to those addressed to me. Some of the recommendations pertain to initiatives that I have already set in motion, including the "Sustainable Energy for All" initiative and a sustainable development strategy for the United Nations system. I have already declared sustainable development to be my top priority for my second term in office. The Panel's recommendation that I convene periodic meetings of the world's political leaders and high-level representatives of other stakeholders on sustainable development is fully consistent with that. I intend to proceed on the recommendation to support the development of a new sustainable development index or set of indicators, as well as of a set of sustainable development goals. As regards the request for a periodic global sustainable development outlook report, I very much see the value of such a report and will explore the modalities in that regard, including the availability of resources for such an important and ambitious undertaking. Finally, I will work to strengthen further the ties between the global scientific community and the United Nations, exploring ways of bringing in the latest science to inform policymaking.

7. The United Nations system entities and I, as Secretary-General, are at the disposal of Member States to assist with the implementation of the Panel recommendations addressed to them, at the national, regional or global level. I encourage Member States to consider the recommendations thoroughly and to inscribe those that are ripe for immediate decision in the outcome document of the United Nations Conference on Sustainable Development (Rio+20), which is currently being negotiated. Structural adjustments at the global level are, of course, the prerogative of Member States. I would urge Governments to look at the shortcomings of the current bodies and processes, and to consider a fresh start through a new or reformed global architecture that integrates the three dimensions

of sustainable development and brings together all relevant actors. The substantive involvement of civil society, the private sector and the scientific community, as well as subnational and regional authorities, is a prerequisite for the right discussions to be held, the right decisions to be taken and implementation to happen on the ground.

8. More than anything, we need to mobilize public support and excite citizens around the world with the vision of finally building a sustainable world which guarantees the well-being of humanity, while preserving the planet for future generations. I hope that all will rally behind the Panel's call for resilient people on a resilient planet, and work together to make that vision a reality.

Letter dated 30 January 2012 from the Co-Chairs of the High-level Panel on Global Sustainability addressed to the Secretary-General

We have the privilege to submit to you the report of the High-level Panel on Global Sustainability, entitled "Resilient people, resilient planet: a future worth choosing".

We undertook this report during a period of global volatility and uncertainty. Economies are teetering. Inequality is growing. And global temperatures continue to rise. We are testing the capacity of the planet to sustain us. Efforts to reach the Millennium Development Goals and other social and economic targets are hampered by both the inability to agree on decisive and coordinated action in national and multilateral forum, and by unmet commitments for financial support.

The signposts are clear: we need to change dramatically, beginning with how we think about our relationship to each other, to future generations and to the ecosystems that support us. Our mission as a Panel was to reflect on and formulate a new vision for sustainable growth and prosperity, along with mechanisms for achieving it.

With 7 billion of us now inhabiting our planet, it is time to reflect on our current path. Today we stand at a crossroads. Continuing on the same path will put people and our planet at greatly heightened risk. The other path, we believe, provides extraordinary opportunity, but we must be committed and courageous in following it. Changing course will not be easy. But over time, we believe that following a more sustainable path will enhance human well-being, further global justice, strengthen gender equity and preserve the Earth's life-support systems for future generations.

Nearly 20 years after the Rio Earth Summit, the challenge — and opportunities — of sustainable development are more relevant than ever. Today we see with increasing clarity that economic growth, environmental protection, and social equity are one and the same agenda: the sustainable development agenda. We cannot make lasting progress in one without progress on all.

People are at the centre of our vision of sustainable development. Our report puts forth a series of core recommendations that, if implemented over time, will help lift large swathes of humanity out of dehumanizing poverty; bolster resilience; strengthen global equity, including gender equity; transform how we value goods and services and measure growth; preserve valuable ecosystems; enhance collaboration, coherence and accountability across sectors and institutions; and create a common framework for global sustainability.

In the year 2030, a child born this year will come of age. Our recommendations seek to establish for her, and for all children, a world in which a sustainable, inclusive growth provides more for less, for all.

Our report is addressed to you, but our recommendations will require commitment — and action — from citizens across all sectors of society: from Heads of State and Government and local mayors to business executives, scientists, religious leaders, civil society activists and not least, the leaders of the next generation, today's youth. Each of us must be a part of the solution.

We recognize the universal aspiration to sustainable development and our recommendations allow for addressing it in the context of diverse national circumstances. Implementation has to build on and go beyond agreements and mutual commitments reached up to now.

Our recommendations emanate from our collective personal experience in the public and private arena — in government service, in policy-making roles, in the private sector and civil society. Together, our engagement with the issues we have addressed in the report spans several decades

On behalf of the Panel, we wish to express our deep appreciation to you, Mr. Secretary-General, for your dedicated support and commitment not only to the Panel, but more fundamentally, to the sustainable development agenda. We are also grateful for the support and suggestions received from officials within the United Nations system, Member State delegations and civil society organizations with whom we consulted widely. We wish to express our gratitude to the Panel members who gave generously of their time, experience, and insights in fulfilling this Panel's mission. The Secretariat also deserves our deep thanks for its tremendous efforts in supporting the work of this Panel.

(*Signed*) Tarja **Halonen**
Co-Chair

(*Signed*) Jacob **Zuma**
Co-Chair

Resilient people, resilient planet: a future worth choosing

Report of the High-level Panel of the Secretary-General on Global Sustainability

"Earth provides enough to satisfy every man's need, but not every man's greed."

Mahatma Gandhi

Summary

The vision: a future worth choosing

A quarter of a century ago, the Brundtland report introduced the concept of sustainable development to the international community as a new paradigm for economic growth, social equality and environmental sustainability. It argued that sustainable development could be achieved by an integrated policy framework embracing all three of those pillars. Since then, the world has gained a deeper understanding of the interconnected challenges we face, and the realization that sustainable development provides the best opportunity for people to choose their future. The High-level Panel on Global Sustainability argues that by making transparent both the cost of action and the cost of inaction, political processes can summon both the arguments and the political will necessary to act for a sustainable future. The long-term vision of the Panel is to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries. In light of this, the report makes a range of recommendations to take forward the Panel's vision for a sustainable planet, a just society and a growing economy.

Progress towards sustainable development

Sustainable development is not a destination, but a dynamic process of adaptation, learning and action. It is about recognizing, understanding and acting on interconnections — above all those between the economy, society and the natural environment. The world is not yet on this path. Progress has been made, but it has been neither fast nor deep enough, and the need for further-reaching action is growing ever more urgent. At the same time, we face increasingly powerful drivers of change, including the impacts of current production and consumption patterns and resource scarcity, innovation, demographic change, changes in the global economy, green growth, growing inequality, changing political dynamics and urbanization.

Empowering people to make sustainable choices

The more influence we have in society, the greater our potential impact on the planet and the greater our responsibility to behave sustainably. This is more true than ever today, when globalization and the pressures on our natural resources mean that individual choices can have global consequences. For too many of us, however, the problem is not unsustainable choices, but a lack of choices in the first place. Real choice is only possible once human rights, basic needs, human security and human resilience are assured. Priority areas for action include:

- Delivering on the fundamentals of development: international commitments to eradicate poverty, promote human rights and human security and advance gender equality
- Advancing education for sustainable development, including secondary and vocational education, and building of skills to help ensure that all of society can contribute to solutions that address today's challenges and capitalize on opportunities

- Creating employment opportunities, especially for women and youth, to drive green and sustainable growth
- Enabling consumers to make sustainable choices and advance responsible behaviour individually and collectively
- Managing resources and enabling a twenty-first-century green revolution: agriculture, oceans and coastal systems, energy and technology, international cooperation
- Building resilience through sound safety nets, disaster risk reduction and adaptation planning

Working towards a sustainable economy

Achieving sustainability requires us to transform the global economy. Tinkering on the margins will not do the job. The current global economic crisis, which has led many to question the performance of existing global economic governance, offers an opportunity for significant reforms. It gives us a chance to shift more decisively towards green growth — not just in the financial system, but in the real economy. Policy action is needed in a number of key areas, including:

- Incorporating social and environmental costs in regulating and pricing of goods and services, as well as addressing market failures
- Creating an incentive road map that increasingly values long-term sustainable development in investment and financial transactions
- Increasing finance for sustainable development, including public and private funding and partnerships to mobilize large volumes of new financing
- Expanding how we measure progress in sustainable development by creating a sustainable development index or set of indicators

Strengthening institutional governance

To achieve sustainable development, we need to build an effective framework of institutions and decision-making processes at the local, national, regional and global levels. We must overcome the legacy of fragmented institutions established around single-issue "silos"; deficits of both leadership and political space; lack of flexibility in adapting to new kinds of challenges and crises; and a frequent failure to anticipate and plan for both challenges and opportunities — all of which undermine both policymaking and delivery on the ground. To build better governance, coherence and accountability for sustainable development at the national and global levels, priority areas for action include:

- Improving coherence at the subnational, national and international levels
- Creating a set of sustainable development goals
- Establishing a periodic global sustainable development outlook report that brings together information and assessments currently dispersed across institutions and analyses them in an integrated way

- Making a new commitment to revitalize and reform the international institutional framewo. including considering the creation of a global sustainable development council

Conclusion: a call for action

Active follow-up is now crucial. The Panel looks to the Secretary-General to implement the recommendations that fall within his authority and to take the full set of recommendations to the United Nations family as a whole. The Panel also looks to the Secretary-General and the United Nations to use the convening power of the Organization to advance the recommendations with other stakeholders in the wider international community, including governments at all levels, international organizations, civil society, the scientific community and the private sector.

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I. The Panel's vision

1. Today our planet and our world are experiencing the best of times, and the worst of times. The world is experiencing unprecedented prosperity, while the planet is under unprecedented stress. Inequality between the world's rich and poor is growing, and more than a billion people still live in poverty. In many countries, there are rising waves of protest reflecting universal aspirations for a more prosperous, just and sustainable world.

2. Every day, millions of choices are made by individuals, businesses and governments. Our common future lies in all those choices. Because of the array of overlapping challenges the world faces, it is more urgent than ever that we take action to embrace the principles of the sustainable development agenda. It is time that genuine global action is taken to enable people, markets and governments to make sustainable choices.

3. The need to integrate the economic, social and environmental dimensions of development so as to achieve sustainability was clearly defined a quarter of a century ago. It is time to make it happen. The opportunities for change are vast. We are not passive, helpless victims of the impersonal, determinist forces of history. And the exciting thing is that we can choose our future.

4. The challenges we face are great, but so too are the new possibilities that appear when we look at old problems with new and fresh eyes. These possibilities include technologies capable of pulling us back from the planetary brink; new markets, new growth and new jobs emanating from game-changing products and services; and new approaches to public and private finance that can truly lift people out of the poverty trap.

5. The truth is that sustainable development is fundamentally a question of people's opportunities to influence their future, claim their rights and voice their concerns. Democratic governance and full respect for human rights are key prerequisites for empowering people to make sustainable choices. The peoples of the world will simply not tolerate continued environmental devastation or the persistent inequality which offends deeply held universal principles of social justice. Citizens will no longer accept governments and corporations breaching their compact with them as custodians of a sustainable future for all. More generally, international, national and local governance across the world must fully embrace the requirements of a sustainable development future, as must civil society and the private sector. At the same time, local communities must be encouraged to participate actively and consistently in conceptualizing, planning and executing sustainability policies. Central to this is including young people in society, in politics and in the economy.

6. Therefore, the long-term vision of the High-level Panel on Global Sustainability is to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries. This reaffirms the landmark 1987 report by the World Commission on Environment and Development, "Our Common Future" (United Nations document A/42/427, annex), known to all as the Brundtland report.

7. But what, then, is to be done if we are to make a real difference for the world's people and the planet? We must grasp the dimensions of the challenge. We must recognize that the drivers of that challenge include unsustainable lifestyles, production and consumption patterns and the impact of population growth. As the global population grows from 7 billion to almost 9 billion by 2040, and the number of middle-class consumers increases by 3 billion over the next 20 years, the demand for resources will rise exponentially. By 2030, the world will need at least 50 per cent more food, 45 per cent more energy and 30 per cent more water — all at a time when environmental boundaries are throwing up new limits to supply. This is true not least for climate change, which affects all aspects of human and planetary health.

8. The current global development model is unsustainable. We can no longer assume that our collective actions will not trigger tipping points as environmental thresholds are breached, risking irreversible damage to both ecosystems and human communities. At the same time, such thresholds should not be used to impose arbitrary growth ceilings on developing countries seeking to lift their people out of poverty. Indeed, if we fail to resolve the sustainable development dilemma, we run the risk of condemning up to 3 billion members of our human family to a life of endemic poverty. Neither of these outcomes is acceptable, and we must find a new way forward.

9. A quarter of a century ago, the Brundtland report introduced the concept of sustainable development to the international community as a new paradigm for economic growth, social equality and environmental sustainability. The report argued that sustainable development could be achieved by an integrated policy framework embracing all three of those pillars. The Brundtland report was right then, and it remains right today. The problem is that, 25 years later, sustainable development remains a generally agreed concept, rather than a day-to-day, on-the-ground, practical reality. The Panel has asked itself why this is the case, and what can now be done to change that.

10. The Panel has concluded that there are two possible answers. They are both correct, and they are interrelated. Sustainable development has undoubtedly suffered from a failure of political will. It is difficult to argue against the principle of sustainable development, but there are few incentives to put it into practice when our policies, politics and institutions disproportionately reward the short term. In other words, the policy dividend is long-term, often intergenerational, but the political challenge is often immediate.

11. There is another answer to this question of why sustainable development has not been put into practice. It is an answer that we argue with real passion: the concept of sustainable development has not yet been incorporated into the mainstream national and international economic policy debate. Most economic decision makers still regard sustainable development as extraneous to their core responsibilities for macroeconomic management and other branches of economic policy. Yet integrating environmental and social issues into economic decisions is vital to success.

12. For too long, economists, social activists and environmental scientists have simply talked past each other — almost speaking different languages, or at least different dialects. The time has come to unify the disciplines, to develop a common language for sustainable development that transcends the warring camps; in other

words, to bring the sustainable development paradigm into mainstream economics. That way, politicians and policymakers will find it much harder to ignore.

13. That is why the Panel argues that the international community needs what some have called "a new political economy" for sustainable development. This means, for example: radically improving the interface between environmental science and policy; recognizing that in certain environmental domains, such as climate change, there is "market failure", which requires both regulation and what the economists would recognize as the pricing of "environmental externalities", while making explicit the economic, social and environmental costs of action and inaction; recognizing the importance of innovation, new technologies, international cooperation and investments responding to these problems and generating further prosperity; recognizing that an approach should be agreed to quantify the economic cost of sustained social exclusion — for example, the cost of excluding women from the workforce; recognizing that private markets alone may be incapable of generating at the scale necessary to bring about a proper response to the food security crisis; and requiring international agencies, national Governments and private corporations to report on their annual sustainable development performance against agreed sustainability measures. We must also recognize that this is a core challenge for politics itself. Unless the political process is equally capable of embracing the sustainable development paradigm, there can be no progress.

14. The scale of investment, innovation, technological development and employment creation required for sustainable development and poverty eradication is beyond the range of the public sector. The Panel therefore argues for using the power of the economy to forge inclusive and sustainable growth and create value beyond narrow concepts of wealth. Markets and entrepreneurship will be a prime driver of decision-making and economic change. And the Panel lays down a challenge for our Governments and international institutions: to work better together in solving common problems and advancing shared interests. Quantum change is possible when willing actors join hands in forward-looking coalitions and take the lead in contributing to sustainable development.

15. The Panel argues that by embracing a new approach to the political economy of sustainable development, we will bring the sustainable development paradigm from the margins to the mainstream of the global economic debate. Thus, both the cost of action and the cost of inaction will become transparent. Only then will the political process be able to summon both the arguments and the political will necessary to act for a sustainable future.

16. The Panel calls for this new approach to the political economy of sustainable development so as to address the sustainable development challenge in a fresh and operational way. That sustainable development is right is self-evident. Our challenge is to demonstrate that it is also rational — and that the cost of inaction far outweighs the cost of action.

17. The Panel's report makes a range of concrete recommendations to take forward our vision for a sustainable planet, a just society and a growing economy:

(a) It is critical that we embrace a new nexus between food, water and energy rather than treating them in different "silos". All three need to be fully integrated, not treated separately if we are to deal with the global food security

crisis. It is time to embrace a second green revolution — an "ever-green revolution" — that doubles yields but builds on sustainability principles;

(b) It is time for bold global efforts, including launching a major global scientific initiative, to strengthen the interface between science and policy. We must define, through science, what scientists refer to as "planetary boundaries", "environmental thresholds" and "tipping points". Priority should be given to challenges now facing the marine environment and the "blue economy";

(c) Most goods and services sold today fail to bear the full environmental and social cost of production and consumption. Based on the science, we need to reach consensus, over time, on methodologies to price them properly. Costing environmental externalities could open new opportunities for green growth and green jobs;

(d) Addressing social exclusion and widening social inequity, too, requires measuring them, costing them and taking responsibility for them. The next step is exploring how we can deal with these critical issues to bring about better outcomes for all;

(e) Equity needs to be at the forefront. Developing countries need time, as well as financial and technological support, to transition to sustainable development. We must empower all of society — especially women, young people, the unemployed and the most vulnerable and weakest sections of society. Properly reaping the demographic dividend calls on us to include young people in society, in politics, in the labour market and in business development;

(f) Any serious shift towards sustainable development requires gender equality. Half of humankind's collective intelligence and capacity is a resource we must nurture and develop, for the sake of multiple generations to come. The next increment of global growth could well come from the full economic empowerment of women;

(g) Many argue that if it cannot be measured, it cannot be managed. The international community should measure development beyond gross domestic product (GDP) and develop a new sustainable development index or set of indicators;

(h) Financing sustainable development requires vast new sources of capital from both private and public sources. It requires both mobilizing more public funds and using global and national capital to leverage global private capital through the development of incentives. Official development assistance will also remain critical for the sustainable development needs of low-income countries;

(i) Governments at all levels must move from a silo mentality to integrated thinking and policymaking. They must bring sustainable development to the forefront of their agendas and budgets and look at innovative models of international cooperation. Cities and local communities have a major role to play in advancing a real sustainable development agenda on the ground;

(j) International institutions have a critical role. International governance for sustainable development must be strengthened by using existing institutions more dynamically and by considering the creation of a global sustainable development council and the adoption of sustainable development goals;

(k) Governments and international organizations should increase the resources allocated to adaptation and disaster risk reduction and integrate resilience planning into their development budgets and strategies;

(l) Governments, markets and people need to look beyond short-term transactional agendas and short-term political cycles. Incentives that currently favour short-termism in decision-making should be changed. Sustainable choices often have higher up-front costs than business as usual. They need to become more easily available, affordable and attractive to both poor consumers and low-income countries.

18. This Panel believes it is within the wit and will of our common humanity to choose for the future. This Panel therefore is on the side of hope. All great achievements in human history began as a vision before becoming a reality. The vision for global sustainability, producing both a resilient people and a resilient planet, is no different.

19. In 2030, a child born in 2012 — the year our report is published — will turn 18. Will we have done enough in the intervening years to give her the sustainable, fair and resilient future that all of our children deserve? This report is an effort to give her an answer.

II. Progress towards sustainable development

A. Efforts to achieve sustainable development

20. Sustainable development was famously defined by "Our Common Future" — the landmark report of the World Commission on Environment and Development published in 1987 — as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs". In this sense, it is not a destination, but a dynamic process of adaptation, learning and action.

21. Importantly, sustainable development is not a synonym for "environmental protection". Instead, sustainable development is fundamentally about recognizing, understanding and acting on interconnections — above all those between the economy, society and the natural environment. Sustainable development is about seeing the whole picture — such as the critical links between food, water, land and energy. And it is about ensuring that our actions today are consistent with where we want to go tomorrow.

22. With this in mind, how far is the world from a sustainable trajectory? How much has really changed since the Brundtland report, or since the United Nations Conference on Environment and Development (Earth Summit) was held in Rio de Janeiro, Brazil, in 1992, or since the reaffirmation of the Rio principles at the Johannesburg Summit in 2002? As shown in box 1, real progress has been made — but the world is still not on the path of sustainable development.

Box 1

The global track record on sustainable development

The following snapshots of progress — or lack of progress, in some cases — give an overview of a range of key areas, in each case looking at changes that took place between 1990 and 2010 (or the nearest years for which data are available). Our objective is to illustrate the direction of travel rather than to suggest that any given problem is hopeless or has been "solved". Where has there been progress that needs to be built on, and where are we off track?

Poverty eradication

27 per cent of the world's population live in absolute poverty, down from 46 per cent in 1990

In 2000, the world's leaders made a promise to halve the number of people living in extreme poverty by 2015 compared with 1990. Today, the world is on track to meet that target. In 1990, 46 per cent of the world's population lived in absolute poverty. In 2005, this had fallen to 27 per cent, and is projected to be below 15 per cent in 2015, putting the world comfortably on track to beat the Millennium Development Goal of halving global poverty. In China and India combined, the number of people living in extreme poverty between 1990 and 2005 declined by about 455 million, and an additional 320 million people are expected to join their ranks by 2015.

In sub-Saharan Africa, progress against poverty appears to be accelerating, with poverty now forecast to fall to 36 per cent by 2015 — a level approaching, but still significantly above, the Millennium Development Goal target of 29 per cent.

Economic growth and inequality

Global economic growth is up 75 per cent since 1992 but inequality is still high

From 1992 to 2010, the world's overall GDP grew by 75 per cent and GDP per capita by 40 per cent. In per capita terms, middle-income countries saw the fastest growth in the 2000s, followed by low-income and then high-income countries. Strong economic growth in some developing countries has led to dramatic improvements in the lives of many poor people.

However, in absolute terms, the per capita income difference between rich and poor countries has grown continuously. Gross national income per capita (based on purchasing power parity) in high-income countries was about 5 times higher than in middle-income countries in 2010 and about 30 times higher than in low-income countries. Average country-level income inequality increased around 20 per cent between 1990 and 2005, despite a surge in the size of the "global middle class". The gap between rich and poor has widened in many developed countries in the past 20 years, and the average income of the richest 10 per cent of the population is now about nine times that of the poorest 10 per cent.

Hunger and undernourishment

An increase of 20 million undernourished people since 2000

Even as the world's population has grown to its current level of 7 billion, global food production has kept pace: today enough food is produced to feed all of us comfortably. However, access to food is another story: hunger has risen in recent years and food prices have increased. Small import-dependent countries, especially in Africa, have been deeply affected by the food and economic crises. The number of undernourished people in developing countries increased by about 20 million between 2000 and 2008. Recent years have also seen the productivity increases of the agricultural "Green Revolution" start to run out of steam, with concerns over prices of inputs such as fertilizers, water availability and competition for land also casting a shadow over the supply outlook — even as demand for food is projected to rise by 70 per cent by 2050.

Forests

5.2 million hectares net forest loss per year

Around 13 million hectares of forest were converted to other uses or lost each year from 2000 to 2010, as compared with 16 million hectares per year in the 1990s (and out of a total global forest area of 4 billion hectares in 2010). However, the world is still losing forest cover at an alarming rate, even if the rate of deforestation now shows signs of decreasing. While we have lost 53 per cent of the original primary vegetation cover of the planet's terrestrial surface, mostly in developed nations, some developing countries, such as Brazil and Indonesia, which had the highest net loss of forest in the 1990s, have substantially reduced the rate of vegetation loss.

The ozone layer

Ozone layer will recover to pre-1980 levels in 50 years plus

Depletion of the Earth's protective layer of stratospheric ozone was one of the defining environmental concerns of the late 1980s, following the discovery of a major ozone "hole" over the Antarctic. But following the entry into force of the Montreal Protocol to the Vienna Convention for the Protection of the Ozone Layer in 1989 and a complete phase-out of chlorofluorocarbon production by 1996, the depletion of the ozone layer has slowed markedly. Without the Montreal Protocol, the Earth would have been on track to lose two thirds of its ozone layer by 2065, leading to dramatic increases in skin cancer. Instead, thanks to multilateral action, the ozone layer is recovering steadily and Antarctic ozone is likely to return to pre-1980 levels sometime between 2060 and 2075.

Biodiversity and ecosystems

Two thirds of the services provided by nature to humankind are in decline

The target agreed to by the parties to the Convention on Biological Diversity in 2002, "to achieve by 2010 a significant reduction of the current rate of biodiversity loss", has not been met. The third edition of *Global*

Biodiversity Outlook finds that although there has been significant progress in slowing the rate of loss for tropical forests and mangroves in some regions, most habitats are in decline and the rate of species extinction appears to be accelerating. The genetic diversity of cultivated species is in decline, potentially leading to crops that are more vulnerable.

The loss of services derived from ecosystems is a significant barrier to the achievement of the Millennium Development Goals to reduce poverty, hunger and disease. Nearly two thirds of the services provided by nature to humankind are found to be in decline worldwide. In effect, the benefits reaped from our engineering of the planet have been achieved by running down natural capital assets. On a more positive note, more protected areas (both on land and in coastal waters) have been established, the conservation of particular species has led to reduced losses, and initiatives to tackle some of the direct causes of ecosystem damage have helped maintain essential ecosystem services.

The oceans

85 per cent of all fish stocks are overexploited, depleted, recovering or fully exploited

With the majority of the world's people living in coastal areas, oceans are crucial for humanity's future — whether through direct economic activities or because of the environmental services they provide. However, overfishing has led to 85 per cent of all fish stocks now being classified as overexploited, depleted, recovering or fully exploited, a situation substantially worse than two decades ago. Meanwhile, agricultural run-offs mean that levels of nitrogen and phosphorus in the oceans have trebled since pre-industrial times, leading to massive increases in coastal "dead zones". The world's oceans are also becoming more acidic as a result of absorbing 26 per cent of the carbon dioxide emitted into the atmosphere, affecting both marine food chains and coral reef resilience. If ocean acidification continues, disruptions of food chains and direct and indirect impacts on numerous species are considered likely with consequent risk to food security, affecting the marine-based diets of billions of people worldwide.

Climate change

38 per cent increase in annual global carbon dioxide emissions between 1990 and 2009

Despite the adoption of the United Nations Framework Convention on Climate Change and its Kyoto Protocol, annual global carbon dioxide emissions from fuel combustion grew by about 38 per cent between 1990 and 2009, with the rate of growth faster after 2000 than in the 1990s. Even with aggressive action to reduce emissions, the world would still face challenges to limit global temperature increase to 2 degrees Celsius since pre-industrial times.

In reality, the world cannot yet be said to be taking aggressive action on climate change. The global carbon dioxide level reached 389 parts per million in 2010 and, absent significant shifts in policy, is on track to exceed 450 parts per million over the coming decades. In its 2010 *Emissions Gap Report*, the United Nations Environment Programme (UNEP) concluded that the currently forecast 2020 emission levels were consistent with pathways that would lead to a likely temperature increase of between 2.5 and 5 degrees Celsius by the end of the twenty-first century, putting millions of lives at risk from increased malnutrition, disease or injury in heatwaves and weather-related disasters, and changes in the geographic range of some infectious disease vectors.

Energy

20 per cent of the world's population lack access to electricity

Over 1.3 billion people globally, or 20 per cent of the world's population, lack access to reliable electricity, while 2.7 billion people still rely on traditional biomass use for their cooking needs. Yet the International Energy Agency estimates that ensuring universal access to modern energy services by 2030 — a prerequisite for achieving the Millennium Development Goals — could be achieved at relatively low cost (less than 3 per cent of the total energy investment required by 2030), and with a modest impact on total energy demand and carbon dioxide emissions.

Recent years have seen renewable energy's share of power, heat and transport grow strongly, with renewables accounting for an estimated 16 per cent of global final energy consumption. Renewable energy accounted for about 50 per cent of total added power-generating capacity in 2010. Progress has been especially marked in the electricity sector, where renewables delivered close to 20 per cent of the world's electricity in 2010. Progress has been especially rapid in some countries: in China, for instance, renewables account for about 26 per cent of total installed electric capacity, and in Brazil the share of renewable energy in power generation is over 80 per cent.

Water and sanitation

884 million people lack access to clean water

2.6 billion people are without access to basic sanitation

The world is on track to achieve and even exceed the Millennium Development Goals target on drinking water. By 2015, nearly 90 per cent of the population in developing regions, up from 77 per cent in 1990, will have access to improved sources of drinking water. Even so, as of the end of 2008, 884 million people lacked access to clean water and only 57 per cent of the world's people obtained their drinking water from a piped connection. The Millennium Development Goal sanitation target is far from being met. Globally, improved sanitation coverage was just above the 60 per cent mark in 2008, up from 54 per cent in 1990, with over 2.6 billion people still without access. Seven out of 10 people without improved sanitation live in rural areas, while in urban areas, keeping up

with the population increase will require serving another 700 million people.

Gender

43 per cent of those in the agriculture workforce in developing countries are women

Gender parity in secondary school enrolment has improved globally, from 76 girls for 100 boys in 1991 to 95 for 100 in 2008. According to the 2012 *World Development Report*, women have seen substantial improvements in rights, education, health and labour opportunities over the past 20 years. Progress has been faster in low- and middle-income countries than in the developed world. But there are still persistent differences across all societies and all sectors. For example, women account for, on average, 43 per cent of the agriculture workforce in developing countries, yet are more likely than men to hold low-wage, part-time and seasonal employment. Disparities also persist in access to productive resources for women farmers; addressing these could increase yields and reduce the amount of undernourished by 100 million to 150 million people.

Education

67 million children of primary school age are out of school

Since the launch of the Education for All initiative and the adoption of the Millennium Development Goals in 2000, remarkable progress has been made in education worldwide. Much of it has been in some of the world's poorest countries. From 1999 to 2008, an additional 52 million children enrolled in primary school. But globally, poverty still kept 67 million children of primary school age out of school in 2009. Enrolment rates are slowing in countries affected by armed conflict, and gender disparities still hamper progress for girls, especially in post-primary education. About 68 per cent of secondary-school-age children were enrolled in 2009, which was a 9 percentage point improvement over 1999. Some 16 per cent of the world's adults — 793 million, of whom two thirds are women — still lack basic literacy skills. Globally, literacy rates are improving, but progress is slow.

Health

3.5-year increase in life expectancy between 1990 and 2010

Worldwide, life expectancy increased by 3.5 years between 1990 and 2010. The least developed countries saw a 6-year increase, but their citizens still live 11 fewer years than the global average. The mortality rate among children under 5 has fallen by a third since 1990 while remaining alarmingly high in sub-Saharan Africa and Southern Asia. The Millennium Development Goal of a two-thirds reduction in infant mortality by 2015 will not be met unless urgent steps are taken to address pneumonia, diarrhoea, malaria and malnutrition. Even though the number of people living with HIV worldwide continues to grow, in 2009 the estimated

number of new HIV infections was 19 per cent lower than in 1999. While the annual global number of new cases of tuberculosis continued to increase slightly in 2009, mortality from tuberculosis has fallen by more than a third since 1990, while malaria deaths in 2010 were 26 per cent lower than in 2000. However, non-communicable diseases — including cardiovascular diseases, some types of cancers, chronic respiratory diseases and diabetes — are steadily growing worldwide and caused about 36 million deaths in 2008. In addition to other factors, climate change is projected to have major negative impacts on human health.

Sources: Data collected from various sources, including the United Nations, the United Nations Environment Programme, the World Bank, the United Nations Development Programme, the Organization for Economic Cooperation and Development, the Food and Agriculture Organization of the United Nations, the secretariat of the Convention on Biological Diversity, the Millennium Ecosystem Assessment, the United Nations Educational, Scientific and Cultural Organization, the International Energy Agency, the World Meteorological Organization, the World Health Organization and the United Nations Children's Fund.

23. Overall, the progress towards sustainable development to date has been neither fast nor deep enough, and the urgency of further-reaching action is growing all the time. But as the next section discusses, major changes are already in train in the larger, global context — changes that will have far-reaching implications for sustainable development.

B. Drivers of change

24. The status quo is increasingly being challenged by powerful drivers of change. Over the next decade and beyond, each of the following trends, and the interplay between them, is likely to have far-reaching implications for sustainable development — whether for good or for ill.

1. The impacts of current production and consumption patterns and resource scarcity

25. First and most fundamentally, the fact that development is not yet sustainable for all countries and all peoples will itself drive change — because by definition, any trend that is unsustainable cannot last. In practice, rapidly improving science and knowledge of the planet's natural systems is making clear the effects of unsustainable development in climate change, environmental degradation and resource scarcity.

26. Climate change is a risk to all countries and individuals. Among its expected impacts are reductions in crop yields, particularly at low latitudes (where most developing countries are); changed precipitation patterns and reduced water availability in some regions such as the dry tropics; increased land degradation and desertification; negative impacts on human health; sea-level rise, likely to pose an existential threat to some small island developing States and communities in

countries with large coastal areas; and new risks from extreme weather. These risks are particularly severe for the world's poorest.

27. Humanity cannot adapt to increasing damages forever: sooner or later, the underlying root cause of rising greenhouse gas concentrations must be faced up to and stabilized. By bringing humanity face to face with the unsustainability of current development models, the impacts of climate change and the costs of addressing it will force us to make substantial changes in our patterns of production and consumption, though this need not imply lower living standards. There will also be major opportunities as we make these shifts, with new jobs emerging in sectors contributing to economic growth and improvements in global welfare. Conversely, any delay in action will exacerbate the problem, increase the costs and reduce the benefits. Climate change calls for the world to embark on sustained processes of economic, social and institutional innovation and renewal; to address new challenges to international peace and security; and to face up to fundamental questions about fairness in the distribution of responsibility and risk.

28. Similarly, resource scarcity — especially of energy, food, land, forests and water — has established itself firmly on Governments' radar, and relates directly to the problem of unsustainable production and consumption patterns. Concerns about scarcity may recede at times if prices fall temporarily, but the underlying fundamentals — of rising demand for resources of all kinds, unsustainable use levels of both finite and renewable resources and inadequate (albeit growing) investment in systems for sustainable resource use — make it likely that scarcity and concerns over resource sustainability will once again move up the policy agenda before long.

29. Resource scarcity could lead towards greater recognition of the need for aggressive efforts to conserve resources, promote the most efficient use and replace non-renewable with renewable resources wherever possible, as well as prompting decisive policy action to address the issue collectively and coherently. But on the other hand it could also lead to narrow thinking, and behaviours that make matters worse — such as food export bans, oil and land grabs, increased geopolitical friction as major powers mobilize to secure supplies, or perverse and inefficient subsidies.

30. Environmental degradation — expressed as loss of fertile soils, desertification, unsustainable forest management, reduction of freshwater availability and an extreme biodiversity loss rate — does not leave enough time to the environment for recovery and regeneration. The greater the rate of production and consumption, with improper waste management, the greater the strain on ecosystems and the drainage of natural resources, leading to a scarcity of vital resources. Nearly two thirds of the services provided by nature to humankind are found to be in decline worldwide.

31. More broadly, with critical natural systems under severe stress, scientists around the world have sought to identify and quantify the risks involved for both humanity and the natural systems themselves. The Brundtland report acknowledged that "there are thresholds that cannot be crossed without endangering the basic integrity of the system". Awareness is growing of the potential for passing "tipping points" beyond which environmental change accelerates, has the potential to become self-perpetuating, and may be difficult or even impossible to reverse. The work of the Stockholm Resilience Centre on planetary boundaries (see box 2) is an important example of work in this field.

Box 2

A safe operating space for humanity

In 2009, a group of scientists led by Johan Rockström from the Stockholm Resilience Centre proposed a framework of "planetary boundaries" designed to define a "safe operating space for humanity". This framework is based on scientific research that indicates that since the Industrial Revolution, human actions have gradually become the main driver of global environmental change.

The scientists assert that once human activity has passed certain thresholds or tipping points, defined as "planetary boundaries", there is a risk of "irreversible and abrupt environmental change".

A total of nine boundaries are identified: climate change, rate of biodiversity loss, biogeochemical flows (both nitrogen and phosphorus), stratospheric ozone depletion, ocean acidification, global freshwater use, change in land use, atmospheric aerosol loading and chemical pollution.

The scientists estimate that human activity appears to have already transgressed the boundaries associated with climate change, rate of biodiversity loss and changes to the global nitrogen cycle.

Further findings suggest that humanity may soon be approaching the boundaries for interference with the global phosphorous cycle, global freshwater use, ocean acidification and global change in land use.

The scientists suggest that the boundaries are strongly interlinked, so that crossing one may shift others and even cause them to be overstepped.

While the scientists themselves stressed that their assessments were only initial estimates, their work represents an important shift towards more systematic monitoring of humanity's impact on its environment.

Source: The Stockholm Resilience Centre. More information is available at www.stockholmresilience.org.

32. As knowledge and awareness of the "global life support systems" on which humanity depends increase, so the scope for global action to protect them may also grow — if the right surveillance, decision-making and implementation systems are in place, and if the political will required is available.

2. Innovation

33. Innovative products, processes and policies have historically changed the lives of millions of people for the better (e.g. vaccines, improved varieties of grain and mobile phones, to name just a few). Globalization has created a favourable innovation climate, and corporate strategists have more opportunity than ever to pick and choose from the best practices and resources across the globe and combine them in new and previously unforeseen ways. The next 10 years will see the arrival of an "avalanche of technology innovation", particularly in the areas of biotechnology and genetics, computer science and energy and resource use and efficiency. Many of these technologies could have highly positive roles in helping to

drive sustainable development, for example by enhancing resource productivity, reducing greenhouse gas emissions and facilitating access to basic services such as water, energy and food. Smart-grid systems and energy-saving technologies, as well as renewable energy systems, are promising examples.

34. The overall impact of technological and other innovations in the sustainable development agenda will be guided not only by the effect they have on humanity's ecological footprint, but also by the extent to which poor countries and vulnerable groups benefit from new technologies, and by how well possible risks that new technologies may introduce, both for people and for the environment, are managed.

Box 3
Mobilizing technology and innovation: Masdar

The United Arab Emirates enterprise Masdar is a comprehensive renewable energy initiative that integrates the whole value chain of renewable energy and clean technology.

Through its various divisions, Masdar invests in clean technologies (such as carbon capture); implements large-scale renewable energy projects; and provides a global platform for demonstrations, cooperation and partnerships in the clean technology cluster of Masdar City.

Masdar manages two clean technology funds amounting to $540 million. In Spain, it has developed the largest commercial-scale concentrated solar power project, supplying 24 hours of energy to the grid using innovative molten salt energy storage technology. Other projects include the 1,000-megawatt offshore London Array wind project as well as the 100-megawatt concentrated solar power project in Abu Dhabi.

Masdar thus contributes to the development and deployment of renewable energy and clean technology both domestically and internationally, limiting the impact of global warming and improving energy security within the developed and developing world.

Source: Mubadala Development Company. More information is available from www.masdar.ae.

3. Demographic change

35. The world's population now stands at over 7 billion. While another billion people are expected to arrive within the next 15 years or so, the world's rate of population growth has slowed markedly since its peak in the 1960s. The latest data suggest that the global population is likely to reach nearly 9 billion people by 2040 and to exceed 10 billion in 2100. Population growth rates remain high in many low-income countries — among them some of the world's most fragile states, many of which also have poor natural resource endowments. The latest United Nations population projections forecast that the number of people living in what are now least

developed countries will rise from 832 million in 2010 to 1.26 billion in 2030 — an increase of 51 per cent in just two decades.[1]

36. At the same time, developing countries, where young people are currently concentrated, have the opportunity to collect a substantial demographic dividend over the coming decades. With dependency ratios falling and youthful (and increasingly urban) populations offering substantial economic opportunities, many developing countries are primed for major increases in prosperity.

37. However, these countries risk losing the opportunity to capitalize on a young population if the education and training needed is not provided, and if job creation is not stimulated through functioning markets and effective Government policies. These countries risk growing economic stagnation and social unrest, as poorly skilled young people vent their frustrations at the prospect of a life of underemployment and stifled aspirations.

4. Changes in the global economy

38. The interconnectedness of the global economy means that no country is immune to events in the larger global economy. At the same time, decision-making processes for managing the international economy are changing rapidly and now include new actors and dynamics (such as the creation of the Group of Twenty (G-20) and the Financial Stability Board, and IMF quota reform). Intense debate is re-emerging in many quarters about the balance between markets and regulation, and between citizens and the State.

39. The adverse effects of global economic crises did not end after 2008, but have instead become more multifaceted. Each of these crises has the potential to derail sustainable development through severe economic shock. They now encompass:

(a) A sovereign debt crisis, rooted primarily in the Organization for Economic Cooperation and Development (OECD) economies but with far-reaching implications for every country because of foreign exchange holdings;

(b) A financial crisis, seen in massively volatile asset prices and large unresolved accumulations of bad debts;

(c) A growth crisis, seen in anaemic growth in many countries and mounting concern about the possibility of what the International Monetary Fund (IMF) has described as a threatening downward spiral for the global economy;

(d) A jobs crisis, with high unemployment across the world, especially among the young, and approximately 1.5 billion people in "vulnerable employment" with little job security and few, if any, employment rights;

(e) A governance crisis, with national Governments often struggling to agree on collective action to manage economic risks, or on ways to improve regulation of the banking sector.

[1] United Nations, *World Population Prospects: The 2010 Revision, Volume I: Comprehensive Tables* (ST/ESA/SER.A/313), 2011, table A.1.

5. Green growth

40. Green growth, pioneered in the Republic of Korea and other countries, aims to foster economic growth and development while ensuring that natural assets and environmental services are protected and maintained. The approach places a premium on technology and innovation — from smart grid systems and high-efficiency lighting systems to renewable energies including solar and geothermal power — as well as on improving incentives for technology development and innovation.

41. Through an emphasis on technology and innovation, various forms of cooperation and the social environment and institutional framework for low-carbon and sustainable society, green growth provides multiple options for countries and the global community to realize the vision. It can shape strategies for a response to climate change by reducing carbon emission through the development, improvement and deployment of various renewable energy sources and efficient energy use. At the same time, it can stimulate economic growth and equip an economy with better tools to cope with rapid demographic changes by fostering green businesses and accompanying synergy effects, and generating green jobs. It can also help a society to tackle resource scarcity and improve the environment and natural assets, including ecosystems and biodiversity, through improved and enhanced natural asset and resource management.

42. Green growth strategies are also able to produce a more resilient growth model, more capable of withstanding external shocks — whether related to climate, energy, food, resources or sudden demographic change. Green growth could also facilitate greater involvement of all relevant stakeholders as its successful implementation requires such participation and cooperation. When tailored adequately for each country, locality or region according to its needs and situation, and complemented with social protection to ensure more inclusivity and stability, green growth could provide a comprehensive approach to realizing sustainable development.

6. Increasing inequality

43. Growing inequality is being manifested in many ways:

(a) Despite the considerable and consistent growth of some developing countries, disparities between the GDP per capita of developed and developing countries have risen over the last decade. Efforts to address these disparities will be an important component of sustainable development;

(b) Inequality has grown even more markedly between the top and bottom quintiles over the past 10 years, both globally and within most countries (though Brazil and Turkey are important exceptions);

(c) In spite of progress in gender equality in some areas, women still face too many barriers to participating fully in the economy, including in terms of access to jobs, markets, credit and property. Removing these barriers can unleash women's potential and contribute to social stability, economic growth and sustainable development;

(d) In spite of some improvements in social equity, vulnerable groups and minorities (among others, indigenous peoples, people with disabilities, undocumented

immigrants and people discriminated against on the basis of sexual orientation and gender identity) are still often subject to stigma and unequal rights, opportunities and income in much of the world;

(e) Perhaps most importantly, critical questions about equity and mutual interdependence will also increasingly arise given current rates of natural resource depletion and ecosystem degradation — as they already have in contexts such as global climate policy.

44. While the principle of equity remains fundamental to sustainable development, disputes about how to apply it in practice mean that it has often been a stumbling block in international relations rather than a core principle for sustainable institutional design in an interdependent world.

45. We also live in an age when authorities at all levels are encountering new challenges from citizens who question whether they are acting in the long-term public interest. Sustainable development demands substantially increased levels of accountability — not only for results in the short term, but also for the long-term consequences of our actions, both for today's generation and for those who will inherit the world we have left for them.

46. Global poverty is a remaining major challenge. More than a billion people still live in poverty. Ending poverty is fundamental for building a more equitable and sustainable world. Governments and international organizations need to scale up their efforts to end poverty and achieve the Millennium Development Goals, in particular Goal 1, to eradicate extreme hunger and poverty.

7. Changing political dynamics

47. National Governments remain indispensable in shaping development paths and making them sustainable, and have many powerful tools at their disposal. There are attractive models for development among developing countries, many of which are making strong progress in areas such as renewable energy, social protection and food security (although this has to be seen in the context of often enormous inequities and uncounted environmental and social costs of rapid growth). Some are becoming aid donors. As surplus rather than debtor nations, they have extraordinary capacity to mobilize and deploy capital.

48. The trend towards a more multipolar world may create a basis for a new and more fruitful cooperation between countries which moves beyond the stale dynamic seen in many current summit processes. Rather than the negative polarity of the current global division into North and South, the world needs a new, more proactive dynamic based on interdependence and mutual interests if we are to make progress on sustainable development.

49. Non-governmental actors have also become key players in international relations and sustainable development. In the private sector, progressive companies are moving away from the voluntarism of "corporate social responsibility" and towards much harder-edged, genuinely systemic approaches — both in their own activities (such as mainstreaming sustainability in supply chains through the use of standards or joining voluntary emissions trading markets) and in their public policy lobbying (for example, coalitions of companies demanding tougher emissions targets and greater long-term certainty in environmental regulation and pricing).

50. Many global and national civil society organizations and movements are breaking out of single-issue portfolios and searching for more cross-cutting agendas. These organizations have crucial roles to play in influencing and implementing sustainable development at both the national and global levels, as well as the potential to open up more political space for sustainable development.

51. Finally, the explosive growth of social networking technologies is continuing to empower individuals — and to have highly unpredictable political consequences. If used responsibly, these technologies could unlock positive political outcomes, particularly if "crowdsourcing" platforms enable more collaborative, participatory and transparent approaches to governance and decision-making.

8. Urbanization

52. Today, the majority of people live in cities. Over the past 20 years, the urban population has grown by more than 60 per cent worldwide, and over the next two decades, the population living in urban areas is projected to grow by another 1.4 billion — from 3.5 billion in 2010 to 4.9 billion in 2030 — with most growth taking place in medium-sized cities (those with populations of between 500,000 and 1 million people) in developing countries.

53. All over the world, people are moving to cities in search of jobs and opportunities that are unavailable in their places of origin. The world's urban areas are also powerhouses for research and innovation. But the global shift towards cities is also creating new challenges. Cities enable middle-class lifestyles that place greatly increased demands on resources and ecosystems. The physical expansion of built-up areas leads to urban sprawl and the expansion of slum areas at the expense of arable land and ecologically vulnerable areas. Informal settlements ("slums") with no basic amenities are becoming a permanent fixture and a way of life for migrants in some developing countries, leading to health and security risks, exposure to natural disasters and other environmental risks.

54. The present report focuses on three areas where the need for justice, sustainability and resilience is the most urgent, providing concrete recommendations on how a transition to sustainable development can be triggered: (a) empowering people to make sustainable choices (sect. III); (b) working towards a sustainable economy (sect. IV); and (c) strengthening institutional governance to support sustainable development (sect. V).

THE GLOBAL TRACK RECORD ON SUSTAINABLE DEVELOPMENT

The following snapshots of progress – or lack of progress, in some cases – give an overview on a range of key areas, in each case looking at changes that took place between 1990 and 2010 (or the nearest years for which data are available). Our objective is to illustrate the direction of travel, rather than to suggest that any given problem is hopeless or has been 'solved'. Where has there been progress which needs to be built on, and where are we off track?

THE OZONE LAYER **50+** YEARS TILL OZONE LAYER WILL RECOVER TO PRE-1980 LEVELS

Depletion of the earth's protective layer of stratospheric ozone was one of the defining environmental concerns of the late 1980s, following the discovery of a major ozone hole over the Antarctic. But following the entry into force of the Montreal Protocol in 1989 and a complete phase out of chlorofluorocarbon (CFC) production by 1996, depletion of the ozone layer has slowed markedly. Without the Montreal Protocol, the Earth would have been on track to lose two thirds of its ozone layer by 2065, leading to dramatic increases in skin cancer. Instead, multilateral action means that the ozone layer is recovering steadily, and is likely to return to pre-1980 levels by some point between 2060 and 2075.

ECONOMIC GROWTH AND INEQUALITY **75%** GLOBAL ECONOMIC GROWTH SINCE 1992 BUT INEQUALITY IS STILL HIGH

Since 1992 to 2010, the world's overall Gross Domestic Product (GDP) grew by 75 per cent and GDP per capita increased every year apart from 2009, with an average annual growth rate of 1.25 per cent. In per capita terms, middle income countries saw the fastest growth, followed by low income, and then high income countries. Strong economic growth in some developing countries has led to dramatic improvements in the lives of many poor people.

However, income inequality is still high. Per capita income (based on Purchasing Power Parity) in high income countries was about 5 times higher than in middle income countries in 2010, and about 30 times higher than in low income countries. Average country level income inequality increased around 20% between 1990-2005, despite a surge in the size of the 'global middle class'. The gap between rich and poor has widened in many developed countries in the past 20 years, where the average income of the richest 10% of the population is about nine times that of the poorest 10%.

POVERTY ERADICATION **27%** WORLD'S POPULATION LIVING IN AN ABSOLUTE POVERTY DOWN FROM 46% IN 1990

In 2000, the world's leaders made a promise to halve the number of people living in extreme poverty over the period 1990 to 2015. Today, the world is on track to meet that target. 46 per cent of the world's population lived in absolute poverty in 1990. By 2010, this had fallen to 27 per cent, and is projected to be below 15 per cent in 2015, putting the world comfortably on track to beat the Millennium Development Goal of halving global poverty. In China and India combined, the number of people living in extreme poverty between 1990 and 2005 declined by about 455 million, and an additional 320 million people are expected to join their ranks by 2015. Even in sub-Saharan Africa, progress against poverty appears to be accelerating, with poverty now forecast to fall to 36 per cent by 2015 – a level approaching, but still significantly above, the MDG target of 29 per cent.

III. Empowering people to make sustainable choices

55. The more influence we have in society, the greater our potential impact on the planet and the greater our responsibility to behave sustainably — never more so than today, when globalization and the constraints of our natural resources mean that individual choices can have global consequences. For too many of us, however, the problem is not only unsustainable choices, but a lack of choices in the first place. Real choice is only possible once human rights, basic needs, human security and human resilience are assured. And delivering on our global promises to end poverty today is every bit as central to sustainable development as ensuring that the needs of the biosphere and of future generations are given due weight.

56. This section sets out recommendations in the following key areas:

(a) Delivering on the fundamentals of development: international commitments to eradicate poverty, promote human rights and human security and advance gender equality (paras. 57-66);

(b) Advancing education for sustainable development, including secondary and vocational education, and building of skills to help ensure that all of society can contribute to solutions that address today's challenges and capitalize on opportunities (paras. 67-77);

(c) Creating employment opportunities, especially for women and youth, to drive green and sustainable growth (paras. 78-88);

(d) Enabling consumers to make sustainable choices and advance responsible behaviour individually and collectively (paras. 89-99);

(e) Managing resources and enabling a twenty-first-century Green Revolution: agriculture, oceans and coastal systems, energy and technology (paras. 100-128);

(f) Building resilience through sound safety nets, disaster risk reduction and adaptation planning (paras. 129-138).

A. Delivering fundamentals

57. A key prerequisite for empowering people to make sustainable choices is ensuring their human rights, including the right to take part in government directly or through freely chosen representatives as well as the fundamental freedoms of thought, conscience, religion, opinion, expression, association and assembly. Sustainable choices can be made only where there are opportunities to influence our situation, claim our rights and voice our concerns. Human rights gained universal recognition in 1948 and the importance of effective citizens' participation in decision-making processes was emphasized in the Brundtland report and endorsed in the 1992 Rio Declaration on Environment and Development.

58. Those living in poverty are among the most vulnerable to political injustices, social inequity and economic downturns. They are also among the most vulnerable to the impacts of climate change, resource scarcity and environmental degradation. They are most exposed to the health risks arising from pollution, poor sanitation and unclean water. And they also rely most on natural resources, often deriving up to two thirds of their income directly from them and spending up to three quarters of their household incomes on food and other basic needs. Eradicating poverty is critical for the well-being of both people and the planet, and to do so, Governments need to deliver on the existing commitments of the Millennium Development Goals.

59. Persistent gender inequality in particular has to be addressed as part of any serious shift towards sustainable development. Unless we do so, more than half our collective intelligence and capacity risks being wasted — as does that of the next generation, and the next. And while real gains have been made over the last few decades, women are still confronted with numerous barriers that limit their capacity as citizens, producers and leaders.

60. Women are vastly underrepresented in decision-making positions around the world. They hold fewer than 20 per cent of all seats in national parliaments and occupy only 16 per cent of ministerial posts. Where women do secure posts, their representation is uneven across sectors: while approximately 35 per cent of social affairs and welfare ministers are women, only 19 per cent of finance and trade ministers, 7 per cent of environment, natural resources and energy ministers, and a mere 3 per cent of science and technology ministers are female. Yet evidence shows that when women are at the table in greater numbers, collective needs are given higher priority — including access to clean water and education and setting aside protected land areas. There is also extensive evidence that ensuring women are part of conflict prevention and peace processes makes for peace settlements that last.

61. Discriminatory laws and practices on inheritance and ownership are a particular brake on women's economic autonomy and potential. These are especially important in the agriculture sector, where extension services often fail to reach women farmers who lack formal title to their land. It is estimated that if women had the same access to productive resources as men, they could increase yields on their

farms by 20 to 30 per cent, potentially raising total agricultural output in developing countries by 2.5 to 4 per cent and reducing the number of undernourished people in the world by 12 to 17 per cent. Rights to inheritance and ownership are also critical in urban areas and informal settlements, and can ensure women's social and economic empowerment during land reform and community rehabilitation programmes.

62. Improving access to family planning, reproductive rights and health services is also fundamental to sustainable development. It not only provides immediate health benefits and reductions in maternal and child mortality, but slows population growth, helps end poverty passed on from one generation to another and lightens the burden on countries with poor natural resource endowments. Access to family planning and reproductive health services is closely linked to overall gender equality: gender equality tends to be higher where they are available, and vice versa.

63. Changes in knowledge, attitudes and behaviour — among both men and women — are also essential for gender equality. This is especially central to the reduction of sexual harassment, violence against women and cross-border trafficking of women and girls, which are not only violations of women's and girls' rights, but have direct and indirect costs for survivors, the private sector and the public sector in terms of health, police and legal and related expenditure, as well as lost productivity.

Recommendation 1

64. **Governments and international donors should scale up their efforts to achieve the Millennium Development Goals to eradicate poverty and to reduce inequalities as top priorities for attaining sustainable development.**

Recommendation 2

65. **Governments should respect, protect and provide for human rights, including the right to take part in government directly or through freely chosen representatives, as recognized in the 1948 Universal Declaration of Human Rights and the 1966 International Covenant on Civil and Political Rights.**

Recommendation 3

66. **Governments should accelerate the implementation of commitments to advance gender equality and women's rights, including through the repeal of discriminatory laws and removal of formal barriers, the reform of institutions and the development and adoption of innovative measures to address informal and cultural practices that act as barriers. Particular emphasis should be given to:**

(a) **Ensuring that women have full and equal access to and control over productive resources through the equal right to own property and the right to inherit, and equal access to credit, financial and extension services along the entire value chain;**

(b) **Ensuring women's equal rights and opportunities in political decision-making processes that are participatory, responsive, equitable and inclusive;**

(c) **Ensuring universal access to quality and affordable family-planning and other sexual and reproductive rights and health services.**

B. Education and skills for sustainable development

67. Investing in education and training provides a direct channel to advancing the sustainable development agenda. It is widely recognized as a tremendously efficient means to promote individual empowerment and lift generations out of poverty, and it yields important development benefits for young people, particularly women.

68. Primary education for all, in particular, is a precondition for sustainable development. Despite real progress, we are still not on track to achieving Millennium Development Goal 2 by ensuring that all children, boys and girls alike, achieve a full course of primary schooling by 2015. Instead, 67 million children of primary school age remain out of school and are still not receiving a primary education. The gap is especially critical for girls, who as of 2008 still made up more than 53 per cent of the out-of-school population. Basic education is essential to overcoming barriers to their future employment and political participation, as women presently constitute roughly two thirds of the 793 million adult illiterates worldwide.

69. The Millennium Development Goal on universal primary education has not yet been met, owing in part to insufficient funds, although other barriers exist. International means to supplement funds and support local and national efforts could help to overcome challenges such as teacher shortages and lack of infrastructure. The World Bank's Global Partnership for Education provides one model to help countries develop and implement sound education strategies.

70. While primary education is the foundation of development, post-primary and secondary education and vocational training are as crucial in building a sustainable future. Every added year of education in developing countries increases an individual's income by 10 per cent or more on average. Studies also show that women in developing countries who complete secondary school have on average one child fewer than women who complete only primary school, leading to more economic wealth within families and decreased intergenerational poverty. Moreover, post-primary education based on a curriculum designed to develop key competencies for a twenty-first-century economy — such as ecosystem management, science, technology and engineering — can encourage innovation and accelerate technology transfer, as well as provide skills vital for new green jobs. Yet today it is estimated that fewer than a quarter of children complete secondary school.

71. Simultaneously, a shortage of appropriate skills is projected to be one of the key barriers to sustainable development. Filling skilled jobs will require a new workforce and could draw on the capacities of young people and women, who are at present chronically underrepresented in these sectors: women account for only 9 per cent of the workforce in construction, 12 per cent in engineering services, 15 per cent in financial and business services and 24 per cent in manufacturing.

72. Technical and vocational training is essential for growth and human capacity-building to meet labour market demands, including in sectors such as health, education and public welfare, where the lack of a skilled labour force can impede a country's sustainable development.

73. Training in all sectors has to be relevant, affordable, accessible and given by qualified and certified practitioners. It needs to be developed in coordination with the private sector to ensure that it is relevant to industry needs and that the credentials conferred are accepted by companies as sufficient qualification.

Vocational and skills training must also be seen as a suitable alternative to other traditional education paths.

74. Recent years have seen an explosion of innovation in ways of delivering vocational and skills training, from entrepreneurial "boot camps", knowledge-sharing and technology hubs and women-to-women business training, to mentoring programmes, youth apprenticeship schemes and research and exchange programmes. But much more concerted and large-scale efforts are needed.

Recommendation 4

75. **Governments should consider establishing a global fund for education. This fund should be designed to attract support from Governments, non-governmental organizations and the private sector, evolve out of the current World Bank Global Partnership for Education, and be tasked with closing the primary school education gap by 2015 so that there can be real hope for realizing Millennium Development Goal 2.**

Recommendation 5

76. **Governments should scale up their efforts to achieve Millennium Development Goal 2 on universal primary education by 2015, and establish a goal of providing universal access to quality post-primary and secondary education no later than 2030, emphasizing the skills and knowledge needed for sustainable growth and jobs.**

Recommendation 6

77. **Governments, the private sector, civil society and relevant international development partners should work together to provide vocational training, retraining and professional development within the context of lifelong learning geared to filling skills shortages in sectors essential to sustainable development. They should prioritize women, young people and vulnerable groups in these efforts.**

C. Creating employment opportunities

78. In the process of shifting economies to a sustainable future, some new jobs will be created, some jobs will be lost and many jobs will be restructured. It will be crucial to develop an appropriate set of initiatives that reinforces the ability of individuals and communities to manage this transition to a more sustainable future. This is especially important as the economic downturn has deprived many workers of jobs, impeded the creation of new jobs and aggravated the situation of the unemployed and their families.

79. As the economy becomes greener, however, there is huge scope for generating decent jobs in sectors that contribute to maintaining or restoring the environment, from renewable energy and retrofitting energy-efficient technologies into the built environment to sustainable waste management and environmental remediation. The global environmental goods and services sector is expected to be worth up to $800 billion by 2015.

80. Jobs in green sectors can also have other benefits. Labour is not only about financial gain and meeting market demands. It has social value and is a means for self-realization. Employees have reported increased job satisfaction working for companies that embrace or promote sustainability principles. In order to provide more decent jobs, it is clear that economic growth is needed.

81. A conducive business environment is fundamental, including the rule of law, property rights, macroeconomic stability and open competition. Governments need to make these priorities in their policymaking and budgets. With these fundamental conditions in place, targeted measures are more likely to pay off, both for society at large and for groups underrepresented in the labour market, such as women and youth.

82. Millions of young people are projected to enter the labour market every month for several decades to come, and a thriving private sector can absorb and take advantage of this demographic dividend. Young people also have undertapped potential; they are among the most affected by the recent economic crisis, with 81 million young people currently unemployed in the world today. An additional 152 million young people work but live in households that earn less than the equivalent of $1.25 per day. One of their options will be to establish a micro or small enterprise. Entrepreneurship education, access to finance, a supportive administrative and regulatory framework and programmes for business assistance and support are all crucial factors for entrepreneurial engagement.

83. Empowering women in particular has the potential to yield tremendous benefits for households, communities and the global economy. Studies show that closing the gap between male and female employment rates would boost GDP by 9 per cent in the United States of America, 13 per cent in the Eurozone and 16 per cent in Japan. Other studies show that there is significant economic benefit to addressing the gender wage gap as well. In Australia, for example, a 1 per cent reduction in the gender wage gap would grow the economy by 0.5 per cent of GDP. Yet wage disparities persist. In the United States, for example, women occupied fewer than 15 per cent of executive officer positions at Fortune 500 companies and less than 8 per cent of top earning positions in 2010, despite making up 48 per cent of the workforce.

84. Women are also at especially high risk of unemployment: in developing countries, women have been more affected by the current economic crisis owing to their large share of export-led factory jobs and employment as migrant workers in service industries, both sectors that have fared badly during the recession. Furthermore, women's informal work is not visible in national labour force statistics and is not included in social protection schemes.

Box 4
Equality means business

The Women's Empowerment Principles (WEPs) — a partnership initiative of the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) and the United Nations Global Compact — is a set of seven principles for business, offering guidance on how to empower women in the workplace, marketplace and community.

More than 250 chief executive officers, including those of major multinational corporations, have affirmed support for these principles, relating to corporate leadership to promote gender equality; fair treatment and mutual respect in the workplace; health, safety and well-being of all workers; education, training and professional development for all women; business development and practices that empower women; community initiatives to promote equality; and measurement and reporting on progress in achieving gender equality.

Companies have also demanded gender-specific reporting guidelines to help put these principles into practice. In response, gender-specific reporting guidelines are being developed by the WEPs that take into consideration the Global Reporting Initiative standards and the Global Compact Communication on Progress.

Source: The United Nations Global Compact, www.unglobalcompact.org/Issues/human_rights/equality_means_business.html.

Recommendation 7

85. **Governments should adopt and advance "green jobs" and decent work policies as a priority in their budgets and sustainable development strategies while creating conditions for new jobs in the private sector.**

Recommendation 8

86. **Governments and business should build partnerships and provide start-up services for young entrepreneurs.**

Recommendation 9

87. **Employers, Governments and trade unions should take a comprehensive approach to advancing equality in the workplace, including by adopting principles of non-discrimination; measures to advance women into leadership roles; gender-sensitive work-life and health policies; education, training and professional development targeting women and minorities; and commitments to measure and publicly report on progress.**

Recommendation 10

88. **Governments and business should recognize the economic benefits of enabling the full participation of women in the economy by putting in place**

economic policies that explicitly address the unique challenges that limit women, in particular:

(a) Allowing access for women farmers to land and resources;

(b) Improving women's access to capital and financial services;

(c) Improving access to markets through trade and technical assistance programmes and microfinance;

(d) Supporting the rise of women leaders in the public and private sectors.

D. Enabling sustainable choices

89. According to an OECD working paper from 2010, the size of the global middle class could increase from 1.8 billion to 3.2 billion by 2020 and to 4.9 billion by 2030. The global middle class is defined as all those living in households with daily per capita incomes of between US$ 10 and US$ 100 in purchasing power parity terms.

90. While this shift is in many ways a development success story, the conjunction of a growing "global middle class" with unsustainable patterns of consumption threatens to push us inexorably towards the limits of natural resources and planetary life support systems — from food, water and energy resources to global systems such as the oceans, the climate and the nitrogen cycle. Without major changes, the planet's capacity to support and sustain us will continue to degrade, with the potential for sudden shifts as key thresholds and tipping points are passed, and as social pressures for fairness increase.

91. But opportunities exist to address this unsustainable situation and increase the efficiency and fairness of resource distribution and use so that planetary health can be maintained even with an increasing population and increasing levels of global prosperity.

92. While government policies and technological innovation both have major roles to play in helping move the world towards a sustainable pathway, the choices that people make are also crucial and depend on broad considerations, such as political perspectives, habits and ethical values. For example, providing access to mass transit and automobiles powered by renewable energy sources is only half the battle; individuals also need to value and choose mass transit in order for society to reap its full benefits. Similarly, the global discourse is promoted through such initiatives as the Earth Charter, which fosters awareness and shared responsibility for future generations, global sustainability and cross-cultural dialogue.

93. For this reason, it is important to make sustainable choices available, affordable and attractive to consumers. End-users have to be consulted during design and urban planning, for example, if they are expected to use a new technology or adopt different, more sustainable behaviours. Product standards for sustainability are important tools that can be instrumental in influencing people's choices.

94. Equally important is understanding the interlinkages between our environment, economy and society, and the consequences of choices. It is thus critical to integrate sustainable development issues into education curricula.

Box 5

The need for more sustainable diets

How we produce and consume food can have a significant impact on sustainable development.

Health

- One billion people currently lack access to nutritious food.
- Recent estimates suggest that the combined effect of inadequate macronutrient (protein) and micronutrient (including iron and iodine) intakes is responsible for 35 per cent of child deaths and 11 per cent of the global disease burden.
- On the other hand, obesity and diabetes rates are rising worldwide. Several nutrition-related chronic diseases, such as coronary heart disease and stroke, are now among the leading causes of death worldwide, with the burden growing most rapidly on the world's lowest-income countries, at times leading to a "double burden" of both under- and over-nutrition, and placing a huge burden on societies and health systems.

Waste

- Approximately one third of the world's food produced for human consumption (around 1.3 billion tons) is lost or wasted each year owing to inefficiencies throughout the food supply chain.
- Food wasted by consumers in high-income countries (222 million tons) is roughly equal to the entire food production of sub-Saharan Africa (230 million tons). Food losses in industrialized countries are as high as in developing countries. However, in developing countries more than 40 per cent of the food losses occur at the post-harvest and processing levels, while in industrialized countries more than 40 per cent of the food losses occur at the retail and consumer levels.

Ecological footprint

- Changing diet patterns, influenced by rising incomes and demand for meat and dairy, affect the water intensity of food production. Two thirds of the water requirement for food production is used for animal-based food, a quarter for grazing. This illustrates the growing ecological footprint of food.
- Current agricultural practices account for 70 per cent of global water use, two thirds of which is used to produce animal-based food. The irrigation required to produce the amount of food wasted annually is estimated to be equivalent to the domestic water needs of 9 billion people.

- Livestock production also accounts for 70 per cent of agricultural land use, 30 per cent of global land use and 18 per cent of global greenhouse gas emissions.
- The proportion of marine fish stocks estimated to be underexploited or moderately exploited declined from 40 per cent in the mid-1970s to 15 per cent in 2008, whereas the proportion of overexploited, depleted or recovering stocks increased from 10 per cent in 1974 to 32 per cent in 2008. It is estimated that 53 per cent of global marine fish stocks are fully exploited, 28 per cent overexploited, 3 per cent depleted and 1 per cent recovering from depletion.

Source: The Food and Agriculture Organization of the United Nations, the World Health Organization and the Swedish Institute for Food and Biotechnology.

95. Access to information through reliable labelling is critical for making educated, sustainable choices. Labels based on technically valid and accurately measured standards — especially in areas of high impact on human and planetary health — can help consumers to understand the full cost of their choices and nudge the market to reward sustainable producers. Cost-effective monitoring, verification and assessment mechanisms, as well as open, transparent, balanced and science-based procedures for developing these mechanisms, are therefore essential to assure accuracy, as well as prevent the misuse of eco-labelling as a barrier to trade.

Box 6
Companies step ahead

There are many examples of successful public-private partnerships to develop information and reporting standards. In the area of greenhouse gas emissions, a joint effort of the World Business Council for Sustainable Development and the World Resources Institute developed the Greenhouse Gas Protocol, which is an accounting tool used by hundreds of private companies around the world to monitor, report on and manage emissions.

One of Central America's largest companies — with revenues of over $570 million in 2010 in Costa Rica — voluntarily set triple bottom line standards to measure its success by not only economic but social and environmental indicators. As water conservation is a priority in that State, the company invested and changed practices to move from 12 litres of water for every litre of beverage in previous years to 4.9 litres in 2011, setting the goal of becoming water neutral by 2012. Incentives are built into the salary of the Chief Executive Officer, as some 60 per cent of it is linked to triple bottom line performance. It may have contributed to a triple win: the company achieved growth twice the industry average between 2006 and 2010.

The Carbon Disclosure Project is a platform whereby more than 3,000 organizations in some 60 countries currently measure and disclose their greenhouse gas emissions, water management and climate change strategies, helping them to set reduction targets and make performance improvements, as well as to make information available to concerned stakeholders and consumers.

Source: Greenhouse Gas Protocol (www.ghgprotocol.org); World Economic Forum, *Redefining the Future of Growth: The New Sustainability Champions* (2011); Carbon Disclosure Project (www.cdproject.net).

Recommendation 11

96. **Governments and other public authorities should promote open, transparent, balanced and science-based processes for developing labelling schemes and other mechanisms that fully reflect the impact of production and consumption, and work with the private sector to ensure that labelling, corporate reporting and advocacy are accurate, cost-effective and trustworthy so as to enable consumers to make informed choices, particularly in areas of high impact on human and natural systems, without creating barriers to trade.**

Recommendation 12

97. **Governments should make sustainable choices more easily available, affordable and attractive to consumers by setting, together with the private sector, sustainable product standards, in accordance with the best available technology and without creating trade barriers, and by applying price incentives and disincentives.**

Recommendation 13

98. **Government and non-governmental entities should promote the concept of sustainable development and sustainable consumption, and these should be integrated into curricula of primary and secondary education.**

Recommendation 14

99. **The Panel welcomes discourse on the ethical dimensions of sustainable development at the United Nations Conference on Sustainable Development (Rio+20) in 2012 among all stakeholders, based on relevant experience and instruments, including the Earth Charter, to inform Governments in their efforts to shift to sustainable development.**

E. Managing resources and enabling a twenty-first-century green revolution

1. Agriculture

100. While the Green Revolution averted massive hunger, it also led to increased pressure on resources that has since been recognized as unsustainable. Agriculture became heavily dependent on fossil-fuel-based inputs and, in the process, vulnerable

to high oil prices, and often used water profligately, to the extent that it now accounts for 70 per cent of global freshwater use. Now, a twenty-first-century green revolution is needed — one that not only increases productivity, but also drastically reduces resource intensity and protects biodiversity at the same time.

101. The new agricultural revolution should focus on sustainable intensification (practices with low external inputs, emissions and wastes) and on crop diversification and resilience to climate change. New "green" biotechnologies can play a valuable role in enabling farmers to adapt to climate change, improve resistance to pests, restore soil fertility and contribute to the diversification of the rural economy.

102. An immediate push on sustainable agriculture would yield enormous social, economic and environmental dividends. Three quarters of the world's poor live in rural areas, and 2.5 billion rural inhabitants are involved in agriculture, with 1.5 billion of them living in smallholder households. With global demand for food projected to rise by 70 per cent by 2050, the opportunity exists for a dramatic improvement in these people's lives, while at the same time helping them to move to more sustainable production models.

103. Smallholder farmers have enormous untapped potential to increase yields, stimulate rural economies and become export earners instead of net food buyers. In order for this to happen, however, smallholder farmers — who support almost a third of the world's population — need access to assets (ranging from land to the tools needed to till the ground), markets (from rural roads to twenty-first-century communications tools for monitoring prices on the global market), credit and risk management (such as crop insurance and social protection) and research and technology.

104. Success will depend, in great part, on investment. Much of this will continue to come from countries' own resources, but additional resources will need to come from official development assistance. Although overall aid to agriculture has declined since the mid 1980s by 43 per cent, it has seen a recent upward trend and has held steady in regions of highest need, such as sub-Saharan Africa and South and Central Asia. The private sector and public-private partnerships will also be essential, and innovative financing issues may also be relevant in this context (see sect. IV below).

105. While investment in the agricultural sectors of low-income countries is urgently needed, the new trend of land access deals often compounds local, well-established and persistent constraints faced by the poor in obtaining access to land and water. Estimates suggest that as much as 80 million hectares of land (and the water that flows over and beneath it) have been acquired in new international investment deals since 2000, more than half of it in sub-Saharan Africa. However, there exists policy guidance — such as the 2009 Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources — for Governments, the private sector and all stakeholders to promote sustainable decision-making in such arrangements and not create barriers to trade.

106. Success will also depend on institutions and initiatives with capacity to effectively coordinate efforts in priority areas of agriculture, land management and water. Institutions that lead in research, policy guidance and knowledge-sharing, such as the Food and Agriculture Organization of the United Nations (FAO), the

Consultative Group on International Agricultural Research and the International Fund for Agricultural Development, are increasingly important for coordinated problem-solving. Ultimately, however, integrated resource management will depend on good governance and management. These are perhaps most critical for watershed management, where integrated schemes are needed that reflect the pressing multisectoral demands on this resource from competing sectors, as well as the need for a comprehensive response.

107. A sustainable agricultural revolution will need renewed efforts to reduce barriers to international agricultural trade, in particular by concluding the Doha development round. It will also require attention to many factors, including a massive upgrade of extension services, which need to be gender-sensitive, given that most small farmers are women, as well as a strong focus on rolling out sustainable innovations and greatly increased investments in agricultural research and development. This effort should have a particular emphasis on sub-Saharan Africa, where agricultural yields have fallen by 10 per cent since 1960 and where climate change has the potential to hit farming particularly hard.

Recommendation 15

108. **Governments and international organizations should work to create a new green revolution — an "ever-green revolution" — for the twenty-first century that aims to at least double productivity while drastically reducing resource use and avoiding further loss of biodiversity, topsoil loss and water depletion and contamination, including through the scaling-up of investment in agricultural research and development, to ensure that cutting-edge research is rapidly moved from laboratory to field. Governments should task FAO with working with key partners and stakeholders to initiate and coordinate this task, as that organization has a unique mandate to reduce the world food deficit.**

Recommendation 16

109. **Governments should work towards agreement on global principles for sustainable and responsible land and water investment deals, including ongoing efforts to promote responsible agricultural investment (RAI), with particular emphasis on protecting the rights and livelihoods of poor people who depend on these basic resources, while ensuring environmental sustainability.**

Recommendation 17

110. **Governments should establish and scale up integrated water resource management schemes, bearing fully in mind that water plays multifaceted roles, including for drinking, sanitation, agriculture, industry and energy.**

Box 7
Food-energy venture in Mozambique

A number of private companies have established a partnership with local authorities in Mozambique aiming to make a new integrated food-energy business that will replace thousands of charcoal-burning cookstoves with cleaner ethanol stoves.

The business model is intended to increase farmers' incomes manyfold, save some 9,000 acres of indigenous forest every year and dramatically reduce greenhouse gas emissions. It aims to supply 20 per cent of local households in the capital, Maputo, with a clean and competitive alternative to charcoal that helps safeguard lives from dangerous charcoal smoke.

Farmers will have the opportunity to transition from slash-and-burn agriculture and charcoal production to cultivating a diverse range of crops and trees. Changing to the production of a more diverse range of food products as well as an ethanol-based cooking fuel made from cassava to be sold in urban markets is projected to significantly improve income and nutrition levels, while also rehabilitating degraded soils and enhancing biodiversity.

Thousands of smallholder farmers will be engaged to create a food and ethanol cooking fuel production facility, implement sustainable farming practices and lay the groundwork for economically and ecologically sustainable communities.

Source: www.cleanstarmozambique.com.

2. Marine and coastal ecosystems

111. Hundreds of millions of people rely on marine areas for food, livelihoods, recreation, culture and economic opportunities. World fisheries support 170 million jobs, and more than 1.5 billion people rely on marine resources for their protein intake. Fisheries, marine and coastal tourism, transport, aquaculture and other uses of coastal and marine environments provide livelihoods for millions of people. Key habitats such as coral reefs, islands, mangroves and other wetlands provide ecosystem services such as protection from extreme weather events, reproduction areas for fisheries and the interface between fresh and salt water. Coasts and oceans are integral to the culture and way of life for many countries and peoples.

112. Marine and coastal ecosystems around the world are in decline, and with that comes a decline in the capacity of oceans to provide the full extent of ecosystem services. Key ecosystems, such as coral reefs and mangroves, might have reached or may soon reach critical thresholds, disproportionately impacting the people and communities that are most vulnerable.

113. Existing ocean-related sustainable development commitments, such as those contained in Agenda 21 and the Johannesburg Plan of Implementation of the World Summit on Sustainable Development, capture well what needs to be done. However, the decline in marine and coastal ecosystems is continuing because economies,

industries, communities and livelihoods are in many cases structured around unsustainable approaches to the use of marine resources, owing to issues such as lack of capacity and information, and perceived competition between environment and development concerns. Such approaches frequently lead to the degradation of the marine ecosystems that the users rely upon.

114. Cooperating to manage oceans on a regional, integrated, long-term and ecosystem scale would give all users a stake in the sustainable management of marine resources. It would also serve to pool resources and expertise and promote compatibility of measures across borders and economic sectors. Examples exist already, such as the Pacific Oceanscape Framework, the Coral Triangle Initiative, the Caribbean Sea Commission, the South Asian Association for Regional Cooperation Coastal Management Centre, the South Asia-wide coastal cooperation initiative and others. But these have yet to be fully implemented, and there are many regions of the globe where such an approach has yet to be designed.

Recommendation 18

115. **Governments should commit to the establishment of regional oceans and coastal management frameworks in major marine ecosystems, including through:**

(a) **Enhanced cooperation in oceans and coastal management involving relevant stakeholders;**

(b) **Marine and coastal planning by countries in regional areas, taking into account the specific needs, ecosystems and users in their area and supported by solid funding mechanisms to develop and implement these plans;**

(c) **Building the capacity of marine managers, policymakers and scientists in developing countries, especially small island developing countries and other coastal States;**

(d) **Enhanced monitoring and surveillance systems.**

Recommendation 19

116. **Where regional fisheries management organizations are operating they should seek to make their policies and practices consistent with and support coordinated regional oceans management. Regional fisheries management organizations, Governments and marine managers should focus on an ecosystem-based approach to fisheries management in order to deliver improved economic and environmental benefits.**

Box 8

The Great Barrier Reef: managing natural resources sustainably

The Great Barrier Reef of Australia is the largest coral reef ecosystem on Earth, home to an amazing diversity of plants, animals and habitats, from shallow inshore fringing reefs and seagrass beds to deep oceanic waters. The multiple-use Great Barrier Reef Marine Park extends more than 2,300 km along the Queensland coast and covers 344,400 km^2. In 1981 it was listed as a World Heritage property for its outstanding universal value.

The Great Barrier Reef is also critical to the economic and social well-being of more than 1 million Australians. The Great Barrier Reef and adjacent catchments support diverse industries that generate more than $A 50 billion annually. Around 2 million tourists visit the Great Barrier Reef each year; the tourist industry generates approximately $A 5 billion annually and supports over 50,000 jobs. Shipping is vital; most of Queensland's $A 17 billion per annum commodity exports are shipped through 10 major ports along the Great Barrier Reef coast. Ten commercial fisheries operate in the Great Barrier Reef, contributing around $A 140 million to the economy each year.

Sustainably managing the Great Barrier Reef requires balancing human use with the maintenance of the area's natural and cultural integrity. The Great Barrier Reef Marine Park zoning plan provides high levels of protection in key areas, while allowing a variety of other sustainable uses (including many types of fishing) in other zones. "No-take" zones (i.e., no-fishing zones) cover 33 per cent (115,000 km^2) of the park. The federal marine park and zoning plan is complemented by an adjacent state marine park and national parks declared over many of the islands in the Great Barrier Reef, all managed as part of a single programme.

Additional management approaches are in place to maintain water quality; reduce nutrient and sediment runoff; protect vegetation in the catchment; protect high-value wetlands and other significant ecological areas; reduce ship groundings; and involve traditional owners in the management and use of the marine parks. These measures ensure that the Great Barrier Reef is passed on to future generations as one of the iconic marine protected areas in the world.

Source: Government of Australia.

3. Energy

117. A lack of modern and sustainable energy services has major consequences not only for climate change but also for household economies and people's health, as families substitute less efficient and dirtier energy sources for their needs. It is estimated that today over 1.3 billion people lack access to electricity, 2.7 billion people rely on the traditional use of biomass for cooking and almost one half of the

world's population still depends on solid fuels such as unprocessed biomass, coal or charcoal.

118. If energy were universally available, whole vistas of new opportunities would open up, including access to modern means of communication and information, new livelihood and training options and powerful drivers of economic growth. Realizing these opportunities will involve a sustained push to connect communities which remain "off grid".

119. The production and use of energy, however, comes with significant costs, ranging from climate change to energy security and environmental degradation. There are multiple options for addressing these, the most significant of which include the development and widespread penetration of renewable sources and improvements in energy efficiency. Both have seen a huge surge in recent years, aided by new Government programmes and significant new investment. According to Bloomberg New Energy Finance, for example, 2011 showed a record $206 billion in total clean energy investment — five times the total obtained only seven years ago. This includes an increase in total investment in solar power to $136 billion. Simultaneously, over the past decade the energy intensity of the world economies has continued to decline. Notwithstanding these advances, the energy sector continues to face major challenges in all dimensions of sustainable development.

Box 9
Public-private partnerships for energy supply and emissions reduction

The 1,224-km Nord Stream underwater pipeline, which passes through five economic zones in the Baltic region, will deliver natural gas from the Russian Federation directly to 26 million European households; it will also contribute to reduction in carbon dioxide emissions when replacing coal. Its first leg was launched in November 2011.

Nord Stream meets international environmental standards in implementing the pipeline project and observes national and international environmental, maritime and legal requirements, including to the Convention on the Environmental Impact Assessment in a Transboundary Context (Espoo, 1991). Nord Stream plans to invest approximately €40 million into its environmental and social monitoring programmes and is committed to sharing its existing survey data with the Baltic Marine Environment Protection Commission. The data gathered during the monitoring programmes will provide input for the Commission's Baltic Sea Action Plan, which aims to restore the good ecological status of the Baltic marine environment by 2021.

Source: Nord Stream (www.nord-stream.com).

120. To address the energy access question as well as improvements in energy efficiency and the more rapid uptake of renewable energy, the Secretary-General has spearheaded a new initiative: "Sustainable Energy for All". It sets three goals to be reached by 2030: universal access to modern energy services; the doubling of the

rate of improvement in energy efficiency; and the doubling of the share of renewable energy in the global energy mix.

Recommendation 20

121. **Governments should work in concert with appropriate stakeholders to ensure universal access to affordable sustainable energy by 2030, as well as seek to double the rate of improvement in energy efficiency and the share of renewable energy in the global energy mix. Governments and international organizations should promote energy-saving technologies and renewable energy through the incentivization of research and development and investment in them.**

4. Innovation and technology

122. Innovation and technology will be critical to the furtherance of sustainable development. Modern information and communications technology provides a particularly salient example. In remote regions, cellular networks enable the use of "mobile money", allowing small-business owners to access larger markets and provide farmers with up-to-the-minute weather information that enables water conservation and higher crop productivity. Mobile telephones can also distribute early warnings that save lives during extreme weather events such as hurricanes and floods.

123. Similarly, the use of information and communications technology can improve the delivery of health services, for instance by allowing for the provision of telemedicine, whereby doctors can attend patients remotely, helping poor people to save money that they would otherwise have to spend on travelling to clinics. Open data platforms, meanwhile, are giving rise to unforeseen improvements in public and private sector transparency, leading to more knowledge-sharing and better decisions, including on natural resource management.

Box 10
Red Eléctrica smart grid

Electricity cannot be stored in large amounts, and therefore production must always keep abreast of consumption in a precise, instantaneous way, requiring a constant balancing act. The role of the Spanish company Red Eléctrica, as the sole transmission agent, manager of the transmission grid and operator of the Spanish electricity system, consists in ensuring that production planned at the power stations corresponds at all times to actual consumer demand. Should a difference arise between the two, it sends the appropriate instructions to the power stations to increase or reduce their output.

Using state-of-the-art technology and real-time communications with the generating stations, Red Eléctrica tracks power demand in real time, capturing data required to operate the electricity system under secure conditions and managing the availability of power stations, restrictions on the transmission grid and international exchanges (with France, Portugal and Morocco). It also performs annual power demand evolution forecasts in order to draw up transmission grid development plans for the coming years. Adjustment services help bring the

production programmes into line with the quality, reliability and safety requirements of the power system.

Looking to the future, Red Eléctrica has the capacity to safely integrate a growing amount of renewable energy (up to 60 per cent of the total demand). Over 300,000 GWh of renewable energy, provided mostly by wind energy, were integrated into the Spanish grid in the past five years. The security and quality of supply is dependent on a sustained investment in improving reliability of the transmission grid, including the increasing role of information and communications technology.

Source: Red Eléctrica de España, S.A. More information is available from http://www.ree.es/ingles/home.asp.

124. Today, more than 5 billion people (80 per cent of the world's population) have access to telecommunication networks. But while recent decades have seen accelerated progress, with four out of five mobile telephone connections now in the developing world, two thirds of the world's population (almost all in developing countries) still lack access to the Internet, and a woman in a low- to middle-income country is 21 per cent less likely than a man to own a mobile telephone. Many rural areas in developing countries lack a telephone signal altogether.

125. While the "connectivity revolution" has so far been driven by the private sector, Governments will almost certainly need to be more involved in order to tackle unattended areas and affordability issues, as well as the development of local content and applications, in order to prevent new communications technologies from becoming new drivers of inequality. With the right policies in place, new communications technologies can provide benefits on a multitude of fronts, including educational and economic opportunities for underserved populations and the dissemination of sustainable practices, and act as catalysts for entrepreneurialism and the growth of small and medium-sized enterprises — the engine for creating jobs in today's economy.

126. A greater number of technologies will be developed and will penetrate more deeply through international cooperation. Some efforts to this end exist, although there is considerable room for improvement. In Cancun, Mexico, and Durban, South Africa, in the context of the United Nations Framework Convention on Climate Change, Governments designed the Climate Technology Centre and Network to develop and promote the diffusion of environmentally sound technologies. The Consultative Group on International Agricultural Research is a global partnership engaging organizations in research for sustainable agriculture, carried out by 15 centres, in collaboration with hundreds of partner organizations. Pooled resources — human and financial — go further to deal with today's global challenges.

Recommendation 21

127. **Governments should work with appropriate stakeholders to provide citizens, especially those in remote areas, with access to technologies, including universal telecommunications and broadband networks, by 2025.**

Recommendation 22

128. **Governments, international financial institutions and major companies should be encouraged to engage in international cooperation on innovation- and technology-oriented sustainable development on an enlarged scale, enhancing the technological capability of developing countries and taking full advantage of the potential roles played by climate-friendly technologies in dealing with global climate change and in developing a green economy. The agreements reached under the United Nations Framework Convention on Climate Change in Cancun and Durban are a good step in this direction.**

F. Building resilience

1. Social protection systems

129. Like any major process of transition, the global shift towards green growth and sustainable development will entail structural changes in both the economy and society, in the process creating both opportunities and new constraints. Social protection and safety nets are essential tools for minimizing hardship during such periods and have a key role to play in building up resilience more broadly at a time of heightened risk — whether as a result of climate change, resource scarcity, financial instability or spikes in the prices of food and other basic goods.

130. At their best, social protection systems not only act as springboards to incentivize work and empower people to resume productive lives amid such challenges, but also can help to build effective States — by deepening the social contract between citizens and States that lies at the heart of governance issues. At the same time, care also needs to be taken in designing them so that they do not neglect segments of society that are uncounted in national labour force statistics — sometimes men, but more often women, occupied in informal work that is invisible and not always included in social protection schemes.

Box 11
Mahatma Gandhi National Rural Employment Guarantee Act

The Mahatma Gandhi National Rural Employment Guarantee Act is a demand-driven, people-centred employment programme, providing livelihood security to rural Indians through a decentralized, participatory governance process based on legal entitlement. It is today the largest social protection net anywhere in the world, with 34 million households having benefited to date.

The programme works by offering a legal guarantee of 100 days of employment each year to every adult member of every rural household, at a defined minimum wage that is guaranteed by federal law. Part of the programme's strength is that it is demand driven — every citizen who asks for a job is given one, within 15 days of submitting an application. The programme is also bottom-up, with planning and implementation carried out at the local level, and full decision-making power delegated to the village assembly level. To date, 1.44 billion person-days of employment have been provided under the programme.

In the process, the programme creates sustainable rural assets and enhances ecological restoration, based on works chosen by rural communities. These works often have spin-off environmental benefits: more than 50 per cent of works chosen relate to water conservation (such as micro-irrigation or renovation of water bodies), while more than 15 per cent of works chosen relate to ecological restoration and local-level forestry activities.

Source: Government of India, Ministry of Rural Development. More information is available at: www.nrega.nic.in.

131. The International Labour Organization has promoted four minimum elements as essential to social protection. These represent aspirational goals for whose achievement many countries continue to strive, although few have yet met them:

(a) All residents should have access to, and the necessary financial protection to afford, a nationally defined set of essential health-care services, including maternal health;

(b) All children should be above the nationally defined poverty line level, where necessary through family/child benefits aimed at facilitating access to nutrition, education and care;

(c) All those in active age groups who are unable to earn sufficient income on the labour markets should enjoy a minimum income security through social assistance, social transfer schemes or employment guarantee schemes;

(d) All residents in old age and with disabilities should have income security at least at the level of the nationally defined poverty line, through minimum pensions for old age and disability.

132. Social protection systems can take a multiplicity of forms, ranging from cash and in-kind transfers to employment guarantee schemes (see box 11), weather insurance for farmers, mother-and-child nutrition programmes and school feeding programmes. Because they are specifically targeted, such programmes are far more affordable for developing countries than alternatives such as economy-wide food or fuel subsidies, which tend to be inefficient, unnecessarily costly and distorting in their wider economic impacts.

Recommendation 23

133. **Countries should work to ensure that all citizens are provided with access to basic safety nets through appropriate national efforts and the provision of appropriate capacity, finance and technology.**

2. Disaster risk reduction and adaptation

134. A particularly important aspect of adaptation is resilience: the ability to cope with climate change and natural disasters, in particular those associated with droughts, sea-level rise, increased temperatures and extreme weather events. Disaster risk reduction is about much more than just emergency management — on the contrary, to be fully effective it must be integrated into all sectors of development and cover both measures to avoid disasters and measures to mitigate

damage when they do occur. This is especially critical among the most vulnerable, such as those in Africa, the small island developing States, the least developed countries and the landlocked developing countries.

135. Global attention to disaster risk reduction has risen steadily in recent years. The Hyogo Framework for Action on disaster risk reduction is an especially important landmark in efforts to assist nations and communities in becoming more resilient to disasters and in better coping with hazards that threaten development. The vast majority (97 per cent) of extensive disaster loss reports are weather-related. While death totals have declined significantly compared with the trend of an increasing population, the economic costs have generally risen, reaching an annual figure of over $200 billion, with the highest cost in 2005 (the year of Hurricane Katrina). The World Meteorological Organization Global Framework for Climate Services shows promise as an example of a new tool in development to address the shortage of quantitative, regularly updated assessments of climate-related risks.

Recommendation 24

136. **Governments should develop and implement policies to manage the economic and social impacts of transition and enhance resilience — in particular through targeted social protection programmes and policies and by scaling up humanitarian capacities to deal with increasing environmental stress and potential shocks, where appropriate.**

Recommendation 25

137. **Governments and international organizations should accelerate efforts to produce regional exposure and vulnerability assessments and appropriate precautionary strategies to prevent adverse impacts on social and natural systems that are fully focused on people's needs, with priority accorded to the special needs of Africa, small island developing States, least developed countries and landlocked developing countries.**

Recommendation 26

138. **Governments and international organizations should increase the resources allocated to adaptation and disaster risk reduction and integrate resilience planning into their development budgets and strategies.**

IV. Working towards a sustainable economy

139. To achieve sustainability, a transformation of the global economy is required. Tinkering at the edges will not do the job. The current global economic crisis, which has led many to question the performance of existing global economic governance, offers an opportunity for root and branch reform and a decisive shift towards green growth, which contributes to sustainable development, not just in the financial system, but in the real economy as well.

140. But the challenge is more complex than simply increasing growth as a way out of the economic crisis. While resumption of growth is, indeed, essential — for reducing unemployment, helping billions of people out of poverty, providing greater opportunities for women and generating the resources necessary for social

protection schemes — the reality of social exclusion and environmental constraints means that this process of increasing prosperity risks becoming a victim of its own success unless it is based on genuinely green growth.

141. Green growth has the potential to be an engine for sustainable development across the board. Thus, while energy will remain the lifeblood of the economy, green growth is concerned with promoting energy from low-carbon and renewable sources and ensuring that it is used efficiently. Where traditional growth paths are heavily skewed towards short-term interests, green growth explicitly sets out to take a long view. Where the old growth patterns leave social and environmental costs out of pricing mechanisms, green growth actively seeks to include them, so that prices send accurate signals. And where traditional growth is indifferent to where investment goes, as long as financial returns are satisfactory, green growth is strongly concerned with ensuring that finance is used to lay the foundations for higher sustainable development performance in the future.

142. Enhancing social inclusion requires the promotion of decent employment for women, youth and the poor. Studies have established that countries are more prosperous, and their economies more competitive, where the gender gap is narrowest, youth and the poor have access to education and health care and economic and political participation are fully ensured. The present section sets out four key areas for policy action: (a) incorporating social and environmental costs into the regulation and pricing of goods and services, as well as addressing market failures (paras. 143-163); (b) creating an incentive road map that increasingly values long-term objectives (paras. 164-180); (c) partnering to leverage new investments (paras. 181-197); and (d) establishing a common framework for measuring progress (paras. 198-202).

A. Incorporating social and environmental costs: regulation and pricing to reflect externalities

143. Most goods and services sold today fail to bear the full cost of production and consumption. These kinds of negative externalities are common in virtually every area of economic activity, and when they are allowed to go uncorrected, they can lead to market failures.

144. A key component of any sustainable economy is a pricing and regulatory system that reflects the full cost of assets, goods and services. While markets and the private sector will be important drivers of change, Governments have a crucial role to play in establishing policy and price signals through both market and non-market means.

145. The purchasing and investment decisions that are taken every day by millions of companies and billions of individuals are the very front line of sustainable development, and as the size of the "global middle class" grows, so does the need for their consumption to be sustainable.

1. Pricing carbon and ecosystem services

146. Fossil fuel prices almost always fail to include the negative externalities, such as climate change and air pollution, associated with the production and burning of such fuels. Full-cost pricing has the power to correct this. By capturing and making

clear the real costs of goods and services to society and the environment, it can prompt companies and consumers to find ways of preventing problems in the first place, through sustainable practices such as pollution prevention, energy efficiency and renewable energy use.

Box 12
Using rail and vehicle fees in the Alps: towards the sustainable transport of goods

In order to protect the environment without placing a burden on trade flows, Switzerland has adopted an ambitious transport policy strongly encouraging the transport of goods by rail instead of by road. Two measures stand out: the construction of a system of new tracks and tunnels (the longest is 57 km), the new railway link through the Alps, which greatly shortens the time needed to travel through Switzerland in the north-south direction and hence facilitates crossing the Alps by rail; and the introduction of a performance-related heavy vehicle fee, which is imposed on virtually every truck heavier than 3.5 tons carrying goods in and through Switzerland. The amount charged is based on the mileage covered, the total gross vehicle weight rating and the vehicle's emission category ("Euro class"). Two thirds of the income generated goes to the federal authorities, who use it first and foremost to finance the construction and maintenance of an efficient railway network, thus further facilitating the switch from polluting road transport to greener rail transport.

Remarkably enough, this policy was not imposed from the top down but has been tested at the ballot box. Both the construction of the new railway link and the introduction of a heavy vehicle fee were supported by the Swiss people in popular referendums.

Source: BLS AG Insfrastruktur. More information is available from http://www.bls.ch/e/infrastruktur/neat-konzept.php.

147. A growing number of Governments are already starting to reform prices. In particular, some have started to price carbon, either through taxation or through emissions trading. Direct and indirect carbon pricing is a critical part of any climate change solution — leading to lower emissions not only by incentivizing conservation, efficiency and demand-side management, but also by helping to make alternative sources of energy more competitive with highly polluting sources. A tax on the most important energy-related greenhouse gas, carbon dioxide, would be another economically efficient means of addressing externalities. This should be done in a manner that does not penalize the poor.

148. Governments can also institute innovative market-based mechanisms to create incentives for companies to move towards more sustainable patterns of production and take a longer term view of profitability.

Box 13

The growing use of emissions trading

"Cap and trade" emissions trading systems allow environmental damage to be reflected in market prices. By capping emissions, they guarantee that the desired level of emission reduction is achieved; and by allowing trading, they give business the flexibility to find the cheapest solutions, while rewarding investment in low-carbon technologies and innovation.

Cap and trade systems work by setting a cap on total carbon dioxide emissions from the plants or countries covered. Emissions allowances are then created and form a common trading currency, with one allowance giving its owner the legal right to emit 1 ton of carbon dioxide. When the actual emissions of companies or countries are below the legal cap, they can sell their permits to actors with emissions above the cap — thus enabling them to profit from their carbon savings.

Cap and trade systems are already in place in the European Union, Norway, New Zealand, Switzerland and a number of north-eastern states of the United States. They are also being developed and implemented in Australia, China, India and the Republic of Korea, as well as in California and some Canadian provinces, and debated in Japan and elsewhere.

Where emissions allowances are allocated through auctioning, as occurs partially in the European Union emissions trading scheme and the Regional Greenhouse Gas Initiative system in the north-eastern United States, they provide an important source of revenue which can be used to fund climate action or other public goods.

The European Union emissions trading system is the largest cap and trade system, launched in 2005, covering carbon dioxide emissions from around 11,500 installations across Europe and around 40 per cent of European Union greenhouse gas emissions. The European Union-wide cap for 2008-2012 amounts to 2.081 billion allowances per year. Use of offset credits from outside the European Union (including from the Clean Development Mechanism and other sources) is allowed, subject to quantitative and qualitative limits, making the European Union emissions trading system the main driver of the international carbon market and providing a clear incentive for action.

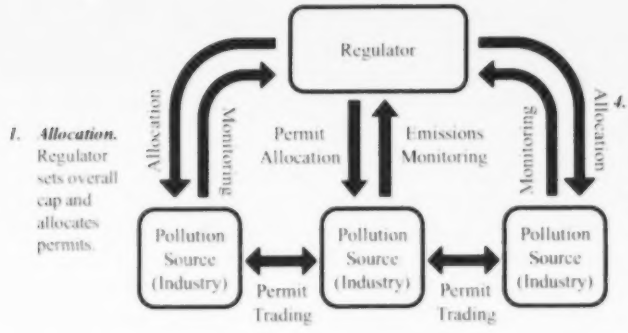
India is working on an emissions trading scheme for key local pollutants in three large states as a new approach to environmental regulation in the country. A pilot project has been launched in three states.

In addition, India has already launched an ambitious "Perform, Achieve and Trade" mechanism, which is intended to encourage 700 of the country's most energy-intensive units to become more energy-efficient and in the process help reduce India's greenhouse gas emissions by 25 million tons of carbon dioxide equivalent per year by 2014/15. About 700 of the most energy-intensive industrial units and power stations in India would be mandated to reduce their energy consumption by a specified percentage. The percentage reduction for a facility would depend on its current level of efficiency: the most efficient facility in a sector would have a lower percentage reduction requirement, while less efficient facilities would face larger percentage reduction requirements.

Australia recently introduced a carbon pricing mechanism as a key part of a plan for a clean energy future to underpin future national prosperity. Social equity is a key element of the scheme, which provides support to low-income households to assist with the impact of the carbon price.

In China, pilot projects on emissions trading have been launched in five cities and two provinces with the aim of gradually putting a regional carbon emissions trading system in place by 2015.

Market mechanisms in India



1. ***Allocation.*** Regulator sets overall cap and allocates permits.

2. ***Trading.*** Industry buys more permits or sells excess and adjusts emissions to be below permit holdings.

3. ***Monitoring.*** Regular monitors total emissions of pollutant through an online system.

4. ***Compliance.*** Regulator checks that all industries are emitting within their permit quotas through online system

Sources: European Commission and the Government of India. More information is available from http://ec.europa.eu/clima/policies/ets/index_en.htm and http://moef.nic.in/modules/others/?f=mfes.

149. Public and private actors are also increasingly recognizing the value of ecosystem services such as soil fertility, water quality, waste decomposition and carbon sequestration. The 2005 Millennium Ecosystem Assessment and the 2009 Economics of Ecosystems and Biodiversity report project were instrumental in defining, valuing and raising awareness about the valuable services which natural systems deliver. This progress is likely to be crucial not only in slowing the

destruction of the world's forests, but also in making sure that vital increases in agricultural production do not come at the cost of ecosystem health.

150. Schemes to create payments for ecosystem services are already being implemented around the world as a way of providing incentives for conserving biodiversity, reducing deforestation, restoring forests, protecting water catchments or reducing soil erosion, while stimulating economic growth and reducing poverty. Examples include:

(a) At the national level, the Conservation Reserve Programme of the United States, the Grain for Green programme of China, the Green Water Credits scheme of Kenya and the National Forest Commission scheme of Mexico;

(b) At the regional level, the European Union agri-environmental and forest environmental schemes (worth €2 billion a year);

(c) At the international level, the reducing emissions from deforestation and forest degradation (REDD-plus) programme.

Box 14
Bolsa Verde

Bolsa Verde is a Brazilian national programme within the purview of the Brasil Sem Miséria plan for the eradication of poverty. The programme distributes additional funds to families living in extreme poverty who commit to promoting environmental conservation in the areas where they live and work. The programme includes quarterly direct payments and environmental capacity-building in forest management. In its initial stages, Bolsa Verde aims to benefit nearly 73,000 small-farm families and other traditional communities living in conservation units and land-reform settlements that contain important forest resources.

Source: Government of Brazil.

2. Reduction of inefficient subsidies

151. In most countries, incomplete pricing of externalities is exacerbated by the tendency of Governments to subsidize sectors of the economy which create negative externalities. Three of the most heavily subsidized sectors in the world are agriculture, energy and fisheries. In 2009, Governments around the world spent an estimated $312 billion subsidizing fossil fuel consumption and an additional $100 billion subsidizing fossil fuel production. In the same year, OECD countries alone spent $384 billion subsidizing agricultural production and consumption.

152. These subsidies are not merely expensive; they also distort trade markets, harm the environment, increase greenhouse gas emissions and slow poverty alleviation. According to the International Energy Agency, only 8 per cent of fossil fuel consumption subsidies in 2010 reached the poorest 20 per cent of the population.

153. While G-20 Governments have made some progress in acknowledging the cost of such subsidies, much more could be achieved with farther-reaching action. Reductions of fossil fuel subsidies would substantially reduce the price difference

between renewable energy and more carbon-intensive energy sources. The International Energy Agency estimates that the effects of phasing out fossil fuel subsidies by 2020 would include:

(a) A 5 per cent decline in global primary energy demand by 2020 — equivalent to the current energy consumption of Australia, Japan, New Zealand and the Republic of Korea combined;

(b) A decline in global demand for oil of 6.5 million barrels per day by 2020, predominant in the transport sector — equivalent to approximately one third of current United States oil demand;

(c) A carbon dioxide emissions reduction of 6.9 per cent (2.4 gigatonnes) by 2020 — equivalent to the current emissions of France, Germany, Italy, Spain and the United Kingdom of Great Britain and Northern Ireland combined.

154. With Governments everywhere under increased pressure to reduce public expenditure, an unprecedented political opportunity exists to reduce or eliminate perverse subsidies that fail to reflect the economic value of natural and social resources.

155. This needs to be done in a manner that does not penalize the poor, especially when the products or services concerned are basic essentials. Careful thought needs to be given to the sequencing of subsidy reduction: subsidies that the poor rely on least should be reduced first, accompanied by targeted support for the poorest and most vulnerable people where needed.

3. Sustainable public procurement

156. Governments can also modify price signals by adopting sustainable public procurement policies. Governments are the largest consumers in an economy. On average, the public sector spends between 45 and 65 per cent of its budgets on public procurement. This amounts to 13 to 17 per cent of GDP in high-income countries and even more elsewhere. This spending can be used to set specific social and environmental standards for products and services purchased and can provide a sufficiently large market to enable economies of scale.

157. Recent successes in the use of sustainable public procurement have demonstrated that Governments can exert a major influence on the private sector, encouraging businesses to invest in new product development, reshape their value chains and build markets for new products outside the public sector. One illustration is the mandatory policy on green product public procurement of the Republic of Korea (see box 15).

Box 15
Green public procurement strategy of the Republic of Korea

The Government of the Republic of Korea recognized the importance of product and service procurement as a key means of realizing national policy goals and introduced a mandatory eco-friendly product procurement scheme to public institutions in 2004 — building on an earlier eco-labelling system introduced in 1994.

The green product procurement policy fosters environmental competition among corporations for market entry and has led to strengthened environmental responsibility, improved price and quality and accelerated development of green technology.

The production scale of eco-labelled products in the Republic of Korea has also increased considerably, from $1.5 billion in 2004 to $17 billion in 2009. The products that public institutions purchased through the public procurement service from 2004 to 2009 were found to have reduced emissions by approximately 2 million tons of carbon dioxide, with economic benefits totalling some $27 million.

Source: Global Green Growth Institute.

4. Innovative sources of financing

158. Other innovative sources of financing can be used at the global, regional or national level as a way of pricing externalities, as well as of generating revenue that can be used to finance other aspects of sustainability. The reform of tax systems to shift taxation away from employment and towards consumption and resource use can help incentivize greener, more resource-efficient growth. Tax deductions to incentivize sustainable behaviour can also be highly effective.

159. While the political acceptability of innovative sources of finance and new fiscal measures will vary by country, as past efforts have shown, recent years have seen particular attention paid to the potential for this kind of approach to be used at the global level. The Panel discussed and agreed on the need to further explore new areas of innovative sources of finance. This could build on, for instance, the work of the High-level Advisory Group of the Secretary-General on Climate Change Financing. In terms of sources, a number of categories were identified by the Advisory Group (see box 16).

160. A number of important sectors of the global economy are currently untaxed, despite the externalities they generate; these include emissions from fossil fuel combustion in the international maritime and aviation sectors. A tax on the most important energy-related greenhouse gas, carbon dioxide, would be another economically efficient means of addressing externalities.

Box 16

Calculations by the High-level Advisory Group on Climate Change Financing (AGF) of innovative finance sources, 2020 estimates

(Billions of United States dollars)

	Low carbon price	*Medium carbon price*	*High carbon price*
1. Public finance for grants			
(a) Public carbon market revenue			
Assigned amount unit auctions and emission trading scheme auctions	2-8	8-38	14-70
Offset levies	0-1	1-5	3-15
(b) Levies on international transport			
Maritime	2-6	4-9	8-19
Aviation	1-2	2-3	3-6
(c) Carbon-related revenues			
Carbon tax		10	
Wires charge		5	
Removal of fossil fuel subsidies (G-20 commitments)		3-8	
Redirection of fossil fuel royalties		10	
(d) Financial transaction taxes		2-27	
(e) Direct budget contributions		200-400	
2. Development bank instruments	Gross leverage factor x 3.5 (net x 1.1)		
3. Private capital (gross flows)		100-200	
4. Carbon market offsets	8-12	38-50	150

Source: Report of the High-level Advisory Group of the Secretary-General on Climate Change Financing, available from: www.un.org/climatechange/agf.

Recommendation 27

161. **Governments should establish price signals that value sustainability to guide the consumption and investment decisions of households, businesses and the public sector. In particular, Governments could:**

(a) **Establish natural resource and externality pricing instruments, including carbon pricing, through mechanisms such as taxation, regulation or emissions trading systems, by 2020;**

(b) **Ensure that policy development reflects the positive benefits of the inclusion of women, youth and the poor through their full participation in and contribution to the economy, and also account for the economic, environmental and social costs;**

(c) Reform national fiscal and credit systems to provide long-term incentives for sustainable practices, as well as disincentives for unsustainable behaviour;

(d) Develop and expand national and international schemes for payments for ecosystem services in such areas as water use, farming, fisheries and forestry systems;

(e) Address price signals that distort the consumption and investment decisions of households, businesses and the public sector and undermine sustainability values. Governments should move towards the transparent disclosure of all subsidies, and should identify and remove those subsidies which cause the greatest detriment to natural, environmental and social resources;

(f) Phase out fossil fuel subsidies and reduce other perverse or trade-distorting subsidies by 2020. The reduction of subsidies must be accomplished in a manner that protects the poor and eases the transition for affected groups when the products or services concerned are essential.

Recommendation 28

162. **Governments, other public institutions such as universities, and international organizations should develop sustainable development criteria for their procurement, with the aim of achieving a shift towards cost-effective sustainable procurement over the next 10 years, and should issue annual public reports on their progress as from 2015.**

Recommendation 29

163. **Governments should develop standards for production and resource extraction to support the transition to a sustainable global economy. They should further encourage widespread adoption and uptake by business of voluntary sustainability principles derived from international agreements and conventions.**

B. Creating an incentive road map that increasingly values long-term objectives

1. Corporate accountability

164. Corporations around the world are making progress in adopting responsible business practices. Yet serious implementation gaps remain. The Global Compact is a strategic policy initiative established by the Secretary-General for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labour, environment and fighting corruption.

165. A number of other voluntary schemes exist within the private sector that can help investors, companies and other stakeholders to measure their environmental and social impact. The Global Reporting Initiative and the International Integrated Reporting Committee, for example, provide a template for corporate reporting on environmental and social performance. The Carbon Disclosure Project provides

information to investors and other stakeholders on companies' carbon liabilities. Some companies have recently introduced their first environmental profit and loss accounts, detailing the full economic cost of natural resources used and environmental effects caused by providing products to customers.

166. However, the uptake of such reporting measures remains limited: currently, only 3 per cent of Fortune 250 companies utilize integrated reporting, which aims to offer investors and regulators a single report addressing a company's overall performance on economic factors as well as environmental, social and governance practices. For a real step change to take place, mandatory reporting should be considered.

167. Capital markets can play a major role in driving this change, by encouraging companies to improve their reporting. In Turkey, recent attempts by the Istanbul Stock Exchange to initiate a sustainability index provide an interesting example of progress in this area (see box 17).

Box 17
Voluntary involvement in sustainability reporting on the Istanbul Stock Exchange

The Istanbul Stock Exchange and the Business Council for Sustainable Development-Turkey launched the Istanbul Stock Exchange Sustainability Index. The aim of the project is to review listed companies on the Istanbul Stock Exchange on the basis of their management of sustainability issues and to create an index that will demonstrate the leadership of listed Turkish companies.

The Istanbul Stock Exchange Sustainability Index seeks to provide a competitive advantage for leading Turkish companies by raising the profile of sustainability leaders. The project will develop an index of companies listed on the Istanbul Stock Exchange to act as a benchmark encouraging and enabling major companies in Turkey to compete successfully in a world where corporate environmental and social governance performance is necessary for long-term success.

The Istanbul Stock Exchange Sustainability Index is a multi-stakeholder project developing best practices with the goal of launching a Turkish sustainability benchmark for Istanbul Stock Exchange-listed companies and their investors.

Source: Istanbul Stock Exchange Sustainability Index. More information is available from http://www.isesi.org/ISESI_ENG/About_ISESI.html.

2. Providing incentives for longer-term investments

168. The transition to sustainable development will require large amounts of capital. Estimates from different sources (Stern, UNEP and OECD) suggest a range from 0.5 to 2.5 per cent of global gross domestic product per annum.

169. Some of this can come from the amount which Governments can save from the almost $1 trillion in subsidies which they pay every year. Some can come from

redirecting a portion of the $5 trillion which they spend on the procurement of goods and services annually. Some will come from official development assistance, now estimated at $130 billion per year. But a very large part of these new resources will come from private pools of capital.

170. While enhanced corporate reporting on sustainability can provide investors with improved information on which to base investment decisions, it will not necessarily change the way they themselves behave. For this to happen, a review of investors' fiduciary responsibilities is needed, particularly in the light of the recent financial crisis and the endemic short-term outlook of the financial sector.

171. Sustainable development requires longer-term, patient investors. Experience has shown that at least part of the current financial crisis has resulted from an overconcentration on "short-termism" and quarterly results by investors. This has revealed a unique window of opportunity for international financial reform and sustainable development to walk hand in hand.

172. Governments need to act to encourage institutional investors, such as public and private pension funds, to invest for the longer term, a critical consideration for sustainable development. At the moment, they are often prevented from doing this by national legislation relating to their "fiduciary responsibilities".

173. We have recently seen the impact of credit rating agencies' decisions on both sovereign and private debt. A range of institutions, led by UNEP, have played important roles in advancing sustainable development considerations as a future component of their ratings.

174. Sovereign wealth funds are also important in this regard. The total assets of such funds currently stand at nearly $3 trillion, and are expected to reach between $6 trillion and $10 trillion by 2013. Twelve new sovereign wealth funds have been established since 2005 alone. Blending commercial and public/national interests, these vehicles have considerable potential to invest for the long term and so take sustainability issues into account more fully, as well as, in some instances, having sustainability as a distinct policy objective. The Norwegian Government pension fund is an example of best practice in this area.

175. These kinds of practices could be advanced through a revision of the current "code of good practice" for sovereign wealth funds — the Santiago Principles — which would be comparable to changes in the governance of national and international public pension funds to enable them to invest responsibly.

176. Bilateral donors, international institutions, development banks and export credit agencies are exposed to fragmentation risk when their sectoral development programmes and policies do not adequately take into account the broader sustainable development perspective. Promoting economic adjustments can have strong impacts on the environment and on social issues. They must hence strive for a holistic approach to sustainable development and monitor the consequences of their policies adequately. A variety of initiatives have been launched to develop criteria for lending institutions, such as those of the "Equator Principles" (which are based on the International Finance Corporation Performance Standards on social and environmental sustainability and on the World Bank Group environmental, health and safety guidelines). These and other efforts may be useful models for wider consideration.

Recommendation 30

177. **Governments should promote and incentivize the inclusion of long-term sustainable development criteria in investment and transactions conducted by companies, including financial transactions. Business groups should work with Governments and international agencies to develop a framework for sustainable development reporting, and should consider mandatory reporting by corporations with market capitalizations larger than $100 million.**

Recommendation 31

178. **Businesses should seek to align their business practices with universally accepted principles concerning human rights, labour, environmental sustainability and the fight against corruption, such as those set forth in the Global Compact.**

Recommendation 32

179. **Given the importance of large pools of private and sovereign capital to enable the transition to sustainable development, we call on the following entities to explore a range of measures to apply sustainable development criteria, including:**

(a) **The boards of sovereign wealth funds and of national and international public pension funds, as well as other major financial institutions, in their investment decisions;**

(b) **Governments or stock market regulators, to adopt or revise regulations in order to encourage their use;**

(c) **Stock exchanges, to facilitate their application in the analysis of companies and their reports on compliance;**

(d) **Governments, to develop incentives and create an enabling environment by making boards of directors attentive to them (fiduciary duty);**

(e) **Governments and credit rating agencies, to integrate them into their respective risk assessments.**

Recommendation 33

180. **Governments, international institutions and international development banks should step up their efforts to promote sustainable development and to assess and monitor adequately the consequences of their policies in the social and environmental spheres. Multilateral and regional development banks and export credit agencies should apply sustainable development criteria, while considering country risks.**

C. Partnering to leverage new investments

181. Despite the continuing importance of and need to increase official development assistance and other public sector funds (in 2010, total official development assistance from OECD countries amounted to $128.7 billion), it is clear that there will be huge financial demands on the private sector as well. The

parties to the United Nations Framework Convention on Climate Change, in negotiations over the past several years, have recognized the need for scaled-up finance — agreeing to mobilize $100 billion of public and private finance per year by the year 2020. However, this is only a portion of the investment needed: the International Energy Agency has estimated that investment in the energy sector alone will total trillions of dollars over the next several decades to keep pace with demand.

182. The past few years have seen a number of innovative public-private partnerships to reduce investment risks, optimize the use of both public and private sources of finance and pool human resources and strategic capabilities. There is increasing recognition among practitioners that such partnerships could play a pivotal role in scaling up sustainability efforts in both developing and developed countries. Strategic public-private partnerships are becoming more influential in implementing sustainable development investment. In these partnerships, participants agree to cooperate up front in a strategic programme design rather than in a stand-alone project.

183. A major part of the sustainable development challenge will be to spend differently, rather than just to spend more. There is significant overlap between many areas where investment is needed: much climate adaptation spending should help with agricultural productivity, for example. Even so, the fact remains that delivering poverty reduction and sustainability outcomes in the future will be an expensive process and will require greater clarity with regard to the respective roles of the public and private sectors.

184. The provision of infrastructure services and their associated financing challenges is an area that requires particular attention. For example, as the world becomes increasingly urbanized, investment in infrastructure for long-term economic growth and sustainable development, such as in energy, water and transportation, will become more important. There are several areas with potential for promoting and leveraging investment in infrastructure.[2]

Partnerships with micro, small and medium-sized enterprises and local communities

185. One area where public investment may be needed is situations in which the required investments need to be front-loaded — for example, when sustainable technologies will reduce operating costs, but recouping their initial capital costs takes time, or when time is required for other instruments, such as private investments, to be able to generate sufficient revenues. It is important to balance the costs and benefits of front-loading carefully and to avoid a situation in which the poor have to carry the burden of up-front resource costs.

186. Another area where public investment can be essential is capacity-building to help developing countries to create market-enabling environments. Unlike fixed investments, these kinds of investments are not usually funded by private finance, but they nonetheless offer high leverage ratios, as they unlock many multiples in both national and international private investment flows.

[2] Infrastructure assets can be defined as the system of public works in a country, State or region, including services such as roads, utility lines and railroads. Private sector financing of public infrastructure usually takes the form of project finance with a long-term perspective.

187. Above all, public investments are critical for projects that offer high social returns but do not provide sufficient financial returns for profit-seeking investors. In such cases, Governments can make the project economically viable through such policies as provision of infrastructure, risk-sharing, viability gap funding[5] or advance purchase commitments.

188. One particular area where partnerships are crucial is the promotion of micro, small and medium-sized enterprises. These companies are pivotal drivers of growth, wealth-creation and employment. The role of small business in sustainable development is thus hugely important.

189. Access to capital is a major obstacle in the development of small businesses, as are gaps in management and limited access to technology. It is estimated that, despite the enormous expansion of the microfinance industry, many small businesses still lack access to credit.

190. Microfinance can be effective in poverty alleviation, by empowering the poor through small business loans, group participatory lending structures and safe institutions for saving money, and it has a key role to play in promoting small and medium-sized enterprises and reducing the vulnerability of the poor to the impacts of poverty and climate change.

191. The key challenges are to continue and, if possible, accelerate the scaling-up of the microfinance industry, to reach increasingly poor and remote people, especially in rural areas, and to reduce costs, taking better advantage of new electronic technologies. There is also a need for mainstream actors in the financing system, including banks, to become much more active in lending to smaller enterprises.

192. For too long, partnerships have been seen as a task for national Governments, international organizations and, more recently, markets. But today substantive progress on sustainable development is not possible without including local governments and local community organizations, such as women's self-help groups, in the forefront of the sustainable development agenda. They must be consulted, engaged and, in many cases, called upon to implement sustainable development policies and partnerships.

Recommendation 34

193. **Governments and business should build strategic partnerships between themselves and local communities for the implementation of sustainable development investments.**

Recommendation 35

194. **Governments, international financial institutions and major companies should work together to create incentives for increased investments in sustainable technologies, innovations and infrastructures, including through the adoption of policies and targets that reduce investor uncertainty; the promotion of**

[5] Viability gap funding is most commonly referred to as financial support from the public sector, in the form of grants to a private partner in infrastructure projects undertaken through public-private partnerships with a view to making them commercially viable.

public-private networks to support research and development; the development of risk guarantee schemes and the provision of risk capital; and seed financing.

Recommendation 36

195. **Governments should use public investment to create enabling frameworks that catalyse very substantial additional financing from the private sector, for example, through the provision of infrastructure, risk-sharing, viability gap funding or advance purchase commitments.**

Recommendation 37

196. **Governments should seek to incentivize investment in sustainable development by shaping investor calculations about the future through, in particular, the greater use of risk-sharing mechanisms and the enhancement of certainty about the long-term regulatory and policy environment. Measures could include targets for renewable energy or conservation, waste reduction, water conservation, access to carbon markets through the Clean Development Mechanism of the Kyoto Protocol or sustained prospects for public financing.**

Recommendation 38

197. **Governments and the financial sector should develop innovative partnerships to provide capacity-building and increased access to capital, as a means of incentivizing small and medium-sized enterprises and enabling them to take part in the new sustainable economy.**

D. Establishing a common framework for measuring progress

198. Gross national product (GNP) has long dominated economic thinking and has been the touchstone by which the performance of national economies and the effectiveness of politicians are measured. But this measure of success has increasingly been challenged by new thinking — including the Brundtland report in 1987, the human development index and the Commission on the Measurement of Economic Performance and Social Progress, established by the President of France, Nicolas Sarkozy, and chaired by Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi. Efforts in a number of countries to include happiness and well-being in national progress indicators are also important steps.

199. While material prosperity is important, it is a long way from being the only determinant of well-being. As the Commission on the Measurement of Economic Performance and Social Progress noted in its 2009 report, purely economic indicators say nothing about whether material well-being is bought at the expense of environmental and social impacts or at the risk of putting undue stress on natural resources.

200. On the environmental side of the equation, there is considerable experience with regard to how to measure the state of the environment, the degree of ecosystem integrity and the dimension of risk as a result of business-as-usual trends, which can be built into the sustainable development index or set of sustainability indicators. Programmes on "green" GNP undertaken by the United Nations (UNEP Global Environmental Outlook biennial reports and the report on decoupling natural

resource use and environmental impacts from economic growth) and by various countries, including India, the OECD environmental indicators, the Millennium Ecosystem Assessment, the Economics of Ecosystems and Biodiversity study and ecological footprint studies (such as those of Mexico), inter alia, are examples of how to measure the degree of ecosystem integrity.

201. The systemic transformation of the global economy implied by sustainable development forces us to rethink what we mean by progress and whether economic growth is really the best means of measuring it. In order to decouple production and consumption from natural resource use and environmental degradation, narrow concepts of GNP should be supplemented by indices or indicators which measure sustainable development. The identification of a sustainable development index or set of sustainable development indicators should not be used as a means to impose penalties or trade barriers.

Recommendation 39

202. **To measure progress on sustainable development, a Sustainable Development Index or set of indicators should be developed by 2014. To this end, the Secretary-General should appoint a technical task force, including relevant stakeholders.**

V. Strengthening institutional governance

203. As shown in previous sections of the present report, sustainable development depends on an effective framework of institutions and decision-making processes at the local, national, regional and global levels. In reality, however, the norm is too often one of fragmented institutions established around single-issue "silos"; deficits in terms of both leadership and political space; lack of flexibility in adapting to new kinds of challenges and crises; and a failure to anticipate and plan for both challenges and opportunities — all of which undermine both policymaking and delivery on the ground.

204. At the same time, the actors involved in governance are more diverse than ever before. Non-State actors have become major players in their own right and adept at using new media and social networking technologies to set agendas. Private-sector entities, meanwhile, have the power to mobilize vast resources, with both positive and negative effects on sustainable development.

205. Coalitions of State and non-State actors are thus becoming increasingly common in policymaking and implementation — on the basis of a pragmatic recognition that effective solutions often depend on a far more collaborative and flexible approach. A crucial role for Governments and State-based institutions, beyond the legitimacy they uniquely confer, then becomes how to set the agenda and create governance frameworks within which such collaboration can constructively take place.

206. The present section examines aspects of governance and coherence for sustainable development at the national and global levels. It also pays special attention to holding all actors accountable for achieving sustainable development, and many of the recommendations put forward are designed to strengthen accountability at all decision-making levels. In particular, this section calls for:

(a) ways to improve coherence and accountability at the national and local levels (paras. 207-219); (b) ways to improve coherence and accountability at the regional and global levels (paras. 220-236); (c) a new set of global sustainable development goals (paras. 237-245); (d) a periodic global sustainable development outlook report to connect the dots across issues and encourage inter-agency coherence at the international level (paras. 246-255); and (e) a new commitment to strengthening international governance for sustainable development, including by considering the creation of a global sustainable development council (paras. 256-267).

A. Coherence and accountability at the national and local levels

207. Good governance is at the heart of sustainable development and starts with the basics: democracy, the rule of law, respect for human rights and fundamental freedoms, and equality for women and men, as well as access to information, justice and political participation. The active participation of young people in society, politics and the economy must be encouraged. Policies to combat corruption and organized crime are also essential, given the damage that corrupt and criminal practices cause to society and the economy.

208. If good governance provides the soil in which sustainable development can grow, coherence is an indispensable tool for actually making it happen. When ministries and agencies work in isolation from one another, the result is fragmentation of efforts and resources and a missed opportunity to address sustainable development challenges that are themselves interconnected.

209. For example, treating climate adaptation as a wholly separate area of work from agriculture, water management or health care may make sense in one way, given that these areas fall under different ministries. But in the lives of real families and communities, they are heavily interconnected by complex webs of linkages, feedback loops and ripple effects.

210. The first steps against institutional fragmentation hence need to be taken in capitals — with genuinely whole-of-Government approaches to sustainable development. Signals sent and leadership exercised from the top, by Heads of State or Government, and by cabinets collectively, are crucial. Sustainable development is too broad and complex to be dealt with by any individual ministry or agency. It needs to involve all those at the crossroads of economic, social and environmental issues. Heads of Government can generate real results if they make clear that sustainable development should be mainstreamed throughout the work of all Government entities, and that they expect all ministers to focus on sustainable development, and work together in pursuit of it.

Box 18

Governance for sustainable development in Norway

The Ministry of Finance of Norway is responsible for coordinating the Government's work on sustainable development, including the National Strategy for Sustainable Development, which covers the economic, environmental and social dimensions of sustainable development.

To implement this strategy, Norway has integrated sustainable development into the Government's most important policy document, the annual national budget. In each yearly budget, follow-up is reported in a separate chapter, with contributions from all ministries and the Statistics Office. It is a critical tool in monitoring progress.

In December 2003, the Government appointed an expert committee that was given the task of developing a set of indicators of sustainable development for Norway. After conducting a public consultation on the initial 16 indicators, the Ministry of Finance presented a slightly revised set of indicators in the 2006 national budget. The set, now consisting of 18 indicators, has become increasingly important in monitoring to what extent developments in Norway are consistent with sustainable development targets. Individual ministries also use the indicator set in their reports on sustainable development issues.

Source: Government of Norway. More information on the National Strategy for Sustainable Development of Norway is available from http://www.regjeringen.no/upload/FIN/rapporter/R-0617E.pdf. More information on the set of indicators for sustainable development is available from http://www.ssb.no/english/magazine/art-2006-11-09-01-en.html.

211. An especially powerful tool for driving coherence across Governments is the integration of budgets, for instance, by allocating resources to strategic goals rather than to ministries or departments. This kind of "management by objectives" can help to focus Government departments and agencies proactively on ways to support cross-governmental goals, whereas departmental budgets can encourage the opposite dynamic, with departments seeking to defend their budgets and "territory" from encroachment. A range of other mechanisms for improving policy coherence are set out in box 19.

Box 19

Mechanisms for policy coherence

Government leaders can draw on a steadily increasing range of policymaking options for improving policy coherence:

- High-level coordination bodies, such as the Planning Commission of India (headed by the Prime Minister, with the specific aim of cutting through ministerial silos), the National Development and Reform Commission of China, the High Planning Council of Turkey and the National Planning Commission of South Africa. Other examples include the Social Partnership initiative of Barbados, which brings together ministers, employers and trade unions to address major economic, social and environmental challenges under the chairmanship of the Prime Minister; and the cross-sectoral approach of Switzerland, inherent to the structure of the federal Government, which, in the absence of a Prime Minister, facilitates collective decision-making on all policy issues and shared responsibility for implementation by all Government members.

- National sustainable development plans and strategies, which are championed by the Head of State or Government, receive broad political support in parliament and bring all relevant stakeholders (including the private sector, civil society, and local and regional authorities) together in a broad partnership. Such plans and strategies should include the economic, social and environmental dimensions of such issues as poverty eradication, job creation, inequality reduction, unsustainable patterns of consumption and production, energy, climate change, biodiversity and green growth. They should also include specific commitments that go beyond the narrow time frame of the electoral cycle, and include monitoring and accountability provisions.

- Ministries of foreign affairs with responsibility for coordinating the foreign policy of their country with the sectoral ministries in order to ensure more coherent representation of national positions in international forums. In Sweden, the Ministry of Foreign Affairs and the Minister for International Development Cooperation are responsible for coordinating and developing the Government's policy coherence for development, unanimously adopted by the Parliament in 2003.

- A better interface between policymakers and the scientific community, which, in turn, can contribute to deeper understanding of the causes and impacts of sustainable development challenges and point to innovative and effective ways of addressing them. The United States President's Council of Advisers on Science and Technology and the United Kingdom Government's Chief Scientific Adviser are both useful examples of this approach.

212. Sustainable development perspectives should be incorporated into the budgetary process at different phases, including when the original budget proposal is prepared and later, in its implementation. These can be derived from internationally agreed goals, as well as other national or international social, economic and environmental standards. The special role of parliaments around the world in holding Governments to account, scrutinizing policy and approving budgets gives them a particular responsibility in ensuring the fulfilment of sustainable development commitments.

213. Local authorities, such as regions, states and municipalities, also have an especially important role to play, given that the subnational level is the front line for so many sustainable development issues. This is particularly the case for cities, in which over half of the world's population now lives. "Green" cities are springing up around the world, with municipal leaders often bypassing national red tape and politics to work together across borders. Examples include such initiatives as the global "C40 Cities", and the "Covenant of Mayors" of the European Union, through which local and regional authorities voluntarily commit to increasing energy efficiency and the use of renewable energy sources.

214. By putting in place supportive legal frameworks and allocating resources and know-how in order to augment locally raised funds and expertise, central and regional governments can play a crucial role in determining whether such initiatives flourish or wither. Capacity-building programmes for local governments can do much to increase their understanding of sustainable development issues and provide them with practical tools to work with. Effective spatial planning, for example, can lead to well-thought-through settlement and construction policies, which in turn can lead to increased energy efficiency in transport and housing, better biodiversity protection and even improved public health, by preventing people (all too often, socially marginalized groups) from settling close to dangerous emission sources or in areas prone to natural disasters. Encouraging healthy competition among cities and local authorities can also have a positive impact. This can be done through, for example, national or international sustainable development awards, such as the European Green Capital Award, given for 2012 to Vitoria-Gasteiz, a city in the Basque country of northern Spain, which puts emphasis on energy efficiency, water conservation, integrated waste management, public transport and civil society engagement.

Recommendation 40

215. **As a basis for sustainable development, Governments should ensure the rule of law, good governance and citizens' rights of access to official information, public participation in decision-making and equal access to justice.**

Recommendation 41

216. **Governments should enable young people's participation in and influence on decision-making processes at the local, national and international levels. In addition, consultation processes and dialogue should be encouraged to incorporate voices from non-conventional networks and youth communities, such as Internet forums and opinion-making blogs.**

Recommendation 42

217. **Governments should adopt whole-of-Government approaches to sustainable development issues, under the leadership of the Head of State or Government and involving all relevant ministries for addressing such issues across sectors.**

Recommendation 43

218. **Governments and parliaments should incorporate the sustainable development perspective into their strategies, their legislation and, in particular, their budget processes. To this end, they should take into account the economic, social and environmental dimensions of such issues as poverty eradication, job creation, inequality reduction, unsustainable patterns of consumption and production, energy, climate change, biodiversity and green growth. They should explore ways to incorporate specific sustainability considerations into budget oversight, report publicly on relevant activities and make budgets accessible to their citizens.**

Recommendation 44

219. **Measures should be taken to strengthen the interface between policymaking and science in order to facilitate informed political decision-making on sustainable development issues. Representatives of the scientific community could be included as members or advisers in relevant national or local bodies dealing with sustainable development issues.**

B. Coherence and accountability at the regional and global levels

220. Accountability and coherence at the international level are also indispensable for advancing sustainable development. International institutions can make a crucial difference in coordinating and facilitating collective action, and in leveraging decisions taken and implementation carried out at the national level.

221. Where collective action is necessary, trust and mutual support are essential. This means finding fresh and productive ways of accommodating the diverse capabilities and circumstances of various countries and regions. It also means reinvigorating action and commitments relating to critical and agreed development goals, such as the official development assistance target of 0.7 per cent of gross national income.

222. Equity, both between and within countries, is central to sustainable development. The Earth Summit principle of common but differentiated responsibilities needs to be honoured in practice rather than in rhetoric alone, as is too often the case at present, with one side insisting on the common and the other on the differentiated part of the principle.

223. Honouring commitments is crucial for building trust. Too often, Governments and the private sector are allowed not to live up to their promises, without consequence. More effective accountability mechanisms should be put in place to address current deficits in implementation.

224. While institutional fragmentation may begin at the national level, it is endemic at the international level, where numerous agencies and multiple coordination mechanisms lack effective mechanisms for aligning their efforts with the bigger picture. Such fragmentation often leads to sectoral development programmes and policies that fail to take the broader sustainable development perspective adequately into account. Economic adjustments, for instance, can have strong impacts on social and environmental issues. Bilateral donors, international institutions and development banks must therefore strive for a holistic approach to sustainable development and adequately monitor the consequences of their policies.

225. Recent years have seen a number of important innovations in addressing this issue. Many Governments began some years ago to strive for "whole-of-Government" approaches to certain development priorities, particularly regarding countries affected by conflict. The "Delivering as one" United Nations approach, which is aimed at improving the coordinated delivery of services by various United Nations system entities operating in developing countries, is now part of a broader global push towards increased aid effectiveness and donor harmonization. This and other initiatives undertaken within the framework of the United Nations System Chief Executives Board for Coordination have sought to improve inter-agency coherence at the policy, management and operational levels within the United Nations system (which includes the Bretton Woods institutions). But institutional fragmentation remains the rule rather than the exception, and a great deal more needs to be done.

226. A critical new governance challenge is to bring non-State actors, including the private sector and civil society organizations, closer to the heart of decision-making at the international level. Giving them a place at the table in consultation and decision-making processes is especially important in the area of sustainable development, where successful solutions depend on harnessing the commitment and resources of a wider set of players.

227. Of course, this is not a one-size-fits-all proposition: these actors will be less relevant with regard to some issues and more relevant with regard to others. In addition, multi-stakeholder platforms must find ways to address questions of mutual obligation, monitoring, accountability and legitimacy. Examples of such an integrative approach are the Secretary-General's "Every Woman, Every Child" and "Sustainable Energy for All" initiatives, both of which involve public sector, private sector and civil society participants, with the aim of mobilizing significant new resources and joint ways of working.

228. Regional and subregional initiatives and mechanisms, such as the New Partnership for Africa's Development (NEPAD), the Caribbean Community (CARICOM) Single Market and Economy, and the Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention), are sources of innovation with great potential to contribute to sustainable development.

Box 20
Multi-stakeholder cooperation in the Baltic Sea

Today, the Baltic Sea is one of the world's most polluted seas, as a result of diverse drivers ranging from eutrophication to hazardous waste — a problem that affects not only the sea's biodiversity, but also the health and livelihoods of the 90 million people who live on its shores.

In 2010, the President of Finland worked jointly with the Finnish Prime Minister and the Chair of the Baltic Sea Action Group to launch the Baltic Sea Action Summit in Helsinki on 10 February 2010. The littoral States and the European Union already engage in extensive cooperation in the region, and have concluded many agreements to regulate the use of the Baltic Sea — but implementation of the agreements has so far been insufficient. The aim of the Summit was thus to provide strong political leadership for improved implementation, bringing together companies, non-governmental organizations and governmental institutions.

At the Baltic Sea Action Summit, States, companies and non-governmental organizations presented their commitments to solve the problems of the Baltic Sea. Those commitments are now being actively monitored, on the basis of milestone information provided by each participant, and are publicly available.

Source: Government of Finland, Ministry of Foreign Affairs. More information is available from http://www.bsas.fi/.

229. While sustainable development is fundamentally about recognizing and acting on interconnections, its three so-called pillars — economy, society and environment — have too often become silos themselves, with a lack of coherence even within them.

230. In terms of economic policy, effective collaboration between finance- and economy-related ministries, central banks and international institutions cannot be taken for granted. The global financial crisis may have a positive effect in this regard, with the Financial Stability Board playing an important role in fostering cooperation and reforming the financial sector in order to make it more resilient. The reforms needed include ensuring greater transparency in the financial markets, filling gaps in the regulation and supervision of some financial products and activities, and ensuring that banks hold capital reserves appropriate to the risk to which they expose themselves.

231. Social policy, meanwhile, has been fragmented into secondary silos, including health, education, labour, human rights and gender issues — all of which are areas with at least one United Nations agency (and sometimes several) devoted to them — but there is no single entity connecting the dots. In addition, while there are clearly critical linkages between these areas — and between social and economic and environmental policy — those linkages are poorly recognized in the international system and, as a result, they have not been operationalized.

232. Finally, environmental policy is similarly fragmented, and the environmental pillar is weak. Environment-related issues often fall under the purview of various authorities or departments and lack coherent attention at the national level. Analogous challenges exist at the international level. There are hundreds of environmental agreements covering various issues and a wide range of institutions with overlapping roles. There is growing consensus regarding the need for a strengthened and simplified environmental institutional architecture. This will need to be supported by adequate financial resources; a system-wide strategy for the environmental dimensions of sustainable development; greater synergies and efficiencies between compatible multilateral environmental agreements; enhanced capacity-building; better science-policy interfaces; and strategic engagement at the regional level.

233. Much of this could be achieved by strengthening UNEP, an idea that has gained support in recent years, accompanied by a number of institutional options. One option is the possible transformation of UNEP into a specialized agency of the United Nations. A strengthened UNEP could enhance coherence between relevant multilateral environmental agreements, and better integrate its work with the activities of development institutions, especially the United Nations Development Programme (UNDP).

Recommendation 45

234. **The Panel recognizes the universal aspiration to sustainable development. It also recognizes the diversity of national circumstances and of social, economic and environmental challenges. The Panel calls for a process to explore the concept and application of the critical issue of equity in relation to sustainable development, with a view to feeding the outcome into the Rio+20 process and its follow-up.**

Recommendation 46

235. **Bilateral donors, international institutions and development banks should step up their efforts to promote sustainable development in a comprehensive way and should monitor and report on the impact of their sustainable development policies on a regular basis.**[4]

Recommendation 47

236. **As international sustainable development policy is fragmented and, in particular, the environmental pillar is weak, UNEP should be strengthened.**

C. Sustainable development goals

237. Since their introduction in 2001, the Millennium Development Goals have been highly successful in galvanizing support for global poverty reduction — providing clear targets for progress and stimulating both the production of new poverty-related data and additional aid commitments.

[4] A similar recommendation is made in sect. IV above. Nevertheless, this recommendation is included in the present section owing to its relevance to governance and accountability at the global and regional levels.

238. However, much more needs to be done to accelerate the achievement of the Goals, with some objectives — such as providing universal primary education by 2015 — still within reach if Governments can summon the collective determination needed. Particular attention needs to be paid to the development challenges faced by low-income countries experiencing or emerging from conflict, where achievement of the Goals lags even further behind, adding to the fragility of their situations and the insecurity of their citizens.

239. With the 2015 deadline for the implementation of the Millennium Development Goals fast approaching, the focus on their implementation needs to continue and intensify. At the same time, however, the world faces a wider set of important sustainable development challenges than those covered in the Goals, and coordinated action is needed in this regard.

240. We believe that agreeing on a set of key universal sustainable development goals could help to galvanize such action, drawing on the experience of the Millennium Development Goals and building on their successful aspects. These should be defined in a way that complements the Millennium Development Goals while allowing for a post-2015 successor framework.

241. Any framework for sustainable development goals should be based on the following principles:

- It should be universal in character, covering challenges to all countries rather than just developing nations
- It should express a broadly agreed global strategy for sustainable development
- It should incorporate a range of key areas that were not fully covered in the Millennium Development Goals, such as food security, water, energy, green jobs, decent work and social inclusion, sustainable consumption and production, sustainable cities, climate change, biodiversity and oceans, as well as disaster risk reduction and resilience
- It should be comprehensive, reflecting equally the economic, social and environmental dimensions of sustainable development and the interconnections between them
- It should incorporate near-term benchmarks while being long-term in scope, looking ahead to a deadline of perhaps 2030
- It should engage all stakeholders in the implementation and mobilization of resources, including local communities, civil society and the private sector, along with Governments
- It should include progress metrics alongside absolute targets, in order to focus policy attention as a means of driving development outcomes and to reflect various development priorities and conditions across countries and regions
- It should provide scope for the review of these goals in view of evolving scientific evidence

242. There are already a number of proposals and initiatives that can contribute to the discussion of what should be covered in any set of sustainable development goals, such as the Secretary-General's "Sustainable Energy for All" initiative (see sect. III above), which puts forward three goals to be reached by 2030, relating to access,

efficiency and renewable energy. Energy illustrates well the cross-cutting challenge of sustainable development. There is a social dimension to universal access to energy, an economic aspect to issues of affordability and energy efficiency, and an environmental side to emissions reduction — and all three are closely interlinked.

243. The sustainable development goals will have to be agreed upon by Governments, and their elaboration, along with the formulation of the necessary targets and indicators, will require an open, transparent and inclusive process drawing on diverse expertise, experience and geographic representation, as well as on the experience of the Millennium Development Goals.

Recommendation 48

244. **Governments should agree to develop a set of key universal sustainable development goals, covering all three dimensions of sustainable development as well as their interconnections. Such goals should galvanize individual and collective action and complement the Millennium Development Goals, while allowing for a post-2015 framework. An expert mechanism should be established by the Secretary-General to elaborate and refine the goals before their adoption by United Nations Member States.**

Recommendation 49

245. **The Panel endorses the Secretary-General's "Sustainable Energy for All" initiative, which should be implemented without delay.**

D. A global sustainable development outlook

246. Sustainable development policymaking needs to be based on the best and most up-to-date evidence. The past 20 years have seen major improvements in the quality of data and analysis regarding various aspects of sustainable development, in particular through a range of benchmark outlook reports on global climate change, energy, food and agriculture, water, health, gender, economy, employment, development and the environment. There is, however, no single comprehensive report that:

- Brings together assessments across sectors
- Provides policymakers with analysis of synergies and trade-offs across various aspects of sustainable development
- Identifies both areas of opportunity and dangerous tipping points
- Provides advice on areas for action across the entire sustainable development agenda

247. We believe that there is a need for a new global sustainable development outlook report, to be published on a regular basis and prepared jointly by a range of key international organizations and private sector entities, under the overall direction of the Secretary-General. The report would assess the state of key economic, social and environmental indicators and their interlinkages, making use of cutting-edge knowledge across all relevant sectors, in close cooperation with the global scientific community.

248. Such a report would focus on global trends and their possible impacts on people around the world. Each edition of the report could have a particular theme that it would explore in depth, starting, for instance, in the first release with the water-food-energy nexus.

249. The objective of producing the outlook report, beyond integrating information and analysis, would be to prompt officials from a diverse range of international organizations to work together, compare their analyses and assumptions about the future, draw in outside experts — including the best available scientific advisers — and consult with Governments. This would, in turn, create valuable shared awareness across various areas of the international system, thus acting as an engine for enhanced global policy coherence.

250. To be effective, the outlook report would need to be firmly anchored in existing policy processes and could be included in the agendas of international bodies and meetings, including potential new bodies such as a global sustainable development council (see below). In addition to any United Nations bodies, this could include regional forums such as the African Union summit or Asia-Pacific Economic Cooperation and summit bodies such as G-20, as well as the governing boards of organizations participating in its preparation and other relevant institutions.

251. The implications of the many dimensions of the impact of human activity, including what scientists refer to as "planetary boundaries", "environmental thresholds" and "tipping points", are not yet understood in detail. Scientific enquiry is active across many fronts, but we still lack a holistic picture of where the planet is heading. In some areas, much effort is being made to coordinate research findings, especially those on climate change and ozone depletion. In other areas, the science is not as well developed, nor are the compounding effects of various environmental, economic and social pressures sufficiently understood.

252. Given the rate of change in science, information on its implications for policymaking is often not available to decision makers. There is a pressing need for better integration of science into policymaking on sustainable development at all levels. The Intergovernmental Panel on Climate Change, set up in 1988, provides a powerful example of one possible approach to accomplishing this: over its nearly 25 years of operation, the Panel has not only synthesized and reviewed the best available scientific data, but has also acted as a platform for discussion of the issue, paving the way for Governments to act.

253. The time is ripe for broader and bolder intergovernmental efforts to strengthen the interface between science and policy and to define, through science, the economic, social and environmental consequences of decisions. Similarly, we need to deepen our understanding of the social and economic challenges faced by poor people and developing countries, while recognizing that thresholds should not be used to define growth ceilings. Improved access to scientific expertise would strengthen the capacity of the United Nations in this area.

Recommendation 50

254. **The Secretary-General should lead a joint effort with the heads of relevant international organizations, including relevant United Nations agencies, international financial institutions, the private sector and other relevant**

stakeholders, to prepare a regular global sustainable development outlook report that brings together information and assessments currently dispersed across institutions, and analyses them in an integrated way.

Recommendation 51

255. **Governments and the scientific community should take practical steps, including through the launching of a major global scientific initiative, to strengthen the interface between policy and science. This should include the preparation of regular assessments and digests of the science around such concepts as "planetary boundaries", "tipping points" and "environmental thresholds" in the context of sustainable development. This would complement other scientific work on the sustainable development agenda, including its economic and social aspects, to improve data and knowledge concerning socio-economic factors such as inequality. In addition, the Secretary-General should consider naming a chief scientific adviser or establishing a scientific advisory board with diverse knowledge and experience to advise him or her and other organs of the United Nations.**

E. Strengthening international governance for sustainable development

256. While sustainable development goals and a new global sustainable development outlook could both help to drive greater coherence on sustainable development in the international system, it is still the case that sustainable development issues lack a clear primary forum for discussion by Governments that brings together all elements, including the contributions of non-governmental actors. With a different ministry representing a Government in each multilateral body, international organizations often address just one aspect of multifaceted global challenges, without looking at the bigger picture.

257. After the 1992 Earth Summit, the Commission on Sustainable Development was created to play this integrative role and look across the sustainable development agenda. Unfortunately, that did not happen. Instead, the Commission developed a rigid, sectoral agenda, often focusing primarily on environmental aspects and thus neglecting broader economic and social aspects of sustainable development. More than once, the Commission has been caught in a zero-sum negotiating dynamic over general political positions that have weakened its standing and have watered down or made impossible any outcome of its deliberations.

258. The Commission has also suffered from not being organically connected to mechanisms of implementation, within the United Nations system and beyond. The Economic and Social Council, the Commission's parent body, has likewise been unable to address sustainable development issues in a systematic and authoritative manner.

259. Meanwhile, there have been significant shifts in the global economy that have increased interdependence among our economies, societies and ecosystems, making it that much more important to take a fresh approach to institutional mechanisms and solutions.

260. In the twenty-first century, what is needed is an institutional architecture that:

(a) Promotes better integration of the three dimensions of sustainable development, sets the agenda and addresses emerging issues, and enables ongoing and real-time interaction where needed;

(b) Has a higher institutional stature, with the relevance to attract the engagement of leaders at the highest level and attain universal legitimacy;

(c) Reviews the state of global sustainable development through new instruments such as the sustainable development goals, other sustainable development performance indices and the global sustainable development outlook (see above), and reviews progress on key components of international cooperation for sustainable development, including finance, technology and capacity-building;

(d) Assesses country performance on sustainable development and enables a constructive peer review that encourages States to explain their policies, to share experiences and lessons learned and to fulfil their commitments, while recognizing the special circumstances of individual countries;

(e) Assesses the performance of intergovernmental organizations on sustainable development;

(f) Reflects broad geographical and political representation of United Nations Member States, fully engages relevant international institutions (including United Nations agencies and the international financial institutions) and ensures the substantive participation of non-State actors from civil society, the private sector and the scientific community;

(g) Encourages innovative partnerships among various stakeholders in priority areas and reviews their implementation;

(h) Promotes increased coherence among United Nations funds, programmes and specialized agencies, as well as international financial institutions.

261. Different measures may be needed in order to achieve these objectives at the international level, including the more dynamic use of existing institutions. The replacement of the Commission on Sustainable Development with a stronger institution, a new global sustainable development council, could contribute to the achievement of many of these objectives. This institutional reform would provide for a fresh start. A new council would substantially improve the institutional integration of the three dimensions of sustainable development, address emerging issues and review sustainability progress, through meetings held on a regular basis throughout the year. The council would develop a peer review mechanism that, in a constructive spirit, would encourage States to explain their policies, to share experiences and lessons learned and to fulfil their commitments. The council would need to have a broad geographical and political membership and to fully engage relevant international institutions — including United Nations agencies and the international financial institutions — and non-State actors from civil society, the private sector and science.

262. This new council should not duplicate the roles and functions of existing bodies. It could be created as a subsidiary organ of the General Assembly and replace the Commission on Sustainable Development, in the same way as the Human Rights Council replaced the former Commission on Human Rights. This

would not require the amendment of the Charter of the United Nations. While reporting directly to the Assembly, the global sustainable development council would maintain a constructive relationship with the Economic and Social Council.

Recommendation 52

263. **Governments should consider creating a global sustainable development council to improve the integration of the three dimensions of sustainable development, address emerging issues and review sustainability progress, with meetings held on a regular basis throughout the year. This body could be a subsidiary organ of the General Assembly and would replace the Commission on Sustainable Development. It would need to have a broad geographical and political membership and to fully engage relevant international institutions — including United Nations agencies and the international financial institutions — and non-State actors from civil society, the private sector and science.**

Recommendation 53

264. **Such a council would develop a peer review mechanism that would encourage States, in a constructive spirit, to explain their policies, to share experiences and lessons learned, and to fulfil their commitments.**

Recommendation 54

265. **Governments should also use existing institutions in a much more dynamic way, including by using the period between the holding in 2012 of Rio+20 and 2015 for deliberate review and experimentation, in order to incorporate tested solutions into any post-2015 development framework and institutional reform.**

Recommendation 55

266. **The Secretary-General should expedite the development of a sustainable development strategy for the United Nations system in order to contribute to coherence, better define responsibilities among United Nations bodies, reduce overlap and duplication and improve accountability for implementation. The strategy should be reviewed by all relevant United Nations bodies and governing boards, with a special effort being made to forge a unified view among countries common to all boards and processes.**

Recommendation 56

267. **The Secretary-General should make full use of the United Nations as the world's meeting place, convening periodic high-level exchanges on sustainable development when leaders meet at the opening of the new session of the General Assembly. Such gatherings should be used to set the agenda and address emerging issues by bringing together Heads of State or Government, heads of international institutions and representatives of civil society and the private sector.**

VI. Conclusion: a call for action

268. A quarter of a century has passed since the Brundtland report introduced the concept of sustainable development to the international community. Since then, the world has gained a deeper understanding of the interconnected challenges we face and the fact that sustainable development provides the best opportunity for people to choose their future. This makes ours a propitious moment in history to make the right choices and move towards sustainable development in earnest.

269. The High-level Panel on Global Sustainability has made concrete proposals on the way forward in three key areas: empowering people to make sustainable choices, working towards a sustainable economy and strengthening institutional governance to support sustainable development. Active follow-up is now crucial. The Panel looks to the Secretary-General to implement the recommendations that fall within his authority and to take the full set of recommendations to the United Nations family as a whole. The Panel also looks to the Secretary-General and the United Nations to use the convening power of the Organization to advance the recommendations in the wider international community, including Governments at all levels, international organizations, civil society, the scientific community and the private sector.

270. The Panel has benefited from interaction with delegates and other stakeholders engaged in the process leading to the United Nations Conference on Sustainable Development, known as Rio+20, and hopes that the proposals set out in the present report will contribute to a productive outcome in Rio de Janeiro. Beyond that, the Panel's greatest aspiration is to see the report serve as a source of inspiration for people all around the planet.

271. The members of the Panel are from 22 countries. While serving in an expert capacity, they represent a variety of constituencies and perspectives. The Panel is united in its conviction that the time for action is now, and that the actions called for herein will make for a future worth choosing.

Annex I

List of recommendations

Recommendations for empowering people to make sustainable choices

1. Governments and international donors should scale up their efforts to achieve the Millennium Development Goals to eradicate poverty and to reduce inequalities as top priorities for attaining sustainable development.

2. Governments should respect, protect and provide for human rights, including the right to take part in government directly or through freely chosen representatives, as recognized in the 1948 Universal Declaration of Human Rights and the 1966 International Covenant on Civil and Political Rights.

3. Governments should accelerate the implementation of commitments to advance gender equality and women's rights, including through the repeal of discriminatory laws and removal of formal barriers, the reform of institutions and the development and adoption of innovative measures to address informal and cultural practices that act as barriers. Particular emphasis should be given to:

(a) Ensuring that women have full and equal access to and control over productive resources through the equal right to own property and the right to inherit, and equal access to credit, financial and extension services along the entire value chain;

(b) Ensuring women's equal rights and opportunities in political decision-making processes that are participatory, responsive, equitable and inclusive;

(c) Ensuring universal access to quality and affordable family-planning and other sexual and reproductive rights and health services.

4. Governments should consider establishing a global fund for education. This fund should be designed to attract support from Governments, non-governmental organizations and the private sector, evolve out of the current World Bank Global Partnership for Education, and be tasked with closing the primary school education gap by 2015 so that there can be real hope for realizing Millennium Development Goal 2.

5. Governments should scale up their efforts to achieve Millennium Development Goal 2 on universal primary education by 2015, and establish a goal of providing universal access to quality post-primary and secondary education no later than 2030, emphasizing the skills and knowledge needed for sustainable growth and jobs.

6. Governments, the private sector, civil society and relevant international development partners should work together to provide vocational training, retraining and professional development within the context of lifelong learning geared to filling skills shortages in sectors essential to sustainable development. They should prioritize women, young people and vulnerable groups in these efforts.

7. Governments should adopt and advance "green jobs" and decent work policies as a priority in their budgets and sustainable development strategies while creating conditions for new jobs in the private sector.

8. Governments and business should build partnerships and provide start-up services for young entrepreneurs.

9. Employers, Governments and trade unions should take a comprehensive approach to advancing equality in the workplace, including by adopting principles of non-discrimination; measures to advance women into leadership roles; gender-sensitive work-life and health policies; education, training and professional development targeting women and minorities; and commitments to measure and publicly report on progress.

10. Governments and business should recognize the economic benefits of enabling the full participation of women in the economy by putting in place economic policies that explicitly address the unique challenges that limit women, in particular:

(a) Allowing access for women farmers to land and resources;

(b) Improving women's access to capital and financial services;

(c) Improving access to markets through trade and technical assistance programmes and microfinance;

(d) Supporting the rise of women leaders in the public and private sectors.

11. Governments and other public authorities should promote open, transparent, balanced and science-based processes for developing labelling schemes and other mechanisms that fully reflect the impact of production and consumption, and work with the private sector to ensure that labelling, corporate reporting and advocacy are accurate, cost-effective and trustworthy so as to enable consumers to make informed choices, particularly in areas of high impact on human and natural systems, without creating barriers to trade.

12. Governments should make sustainable choices more easily available, affordable and attractive to consumers by setting, together with the private sector, sustainable product standards, in accordance with the best available technology and without creating trade barriers, and by applying price incentives and disincentives.

13. Government and non-governmental entities should promote the concept of sustainable development and sustainable consumption, and these should be integrated into curricula of primary and secondary education.

14. The Panel welcomes discourse on the ethical dimensions of sustainable development at the United Nations Conference on Sustainable Development (Rio+20) in 2012 among all stakeholders, based on relevant experience and instruments, including the Earth Charter, to inform Governments in their efforts to shift to sustainable development.

15. Governments and international organizations should work to create a new green revolution — an "ever-green revolution" — for the twenty-first century that aims to at least double productivity while drastically reducing resource use and avoiding further loss of biodiversity, topsoil loss and water depletion and contamination, including through the scaling-up of investment in agricultural research and development, to ensure that cutting-edge research is rapidly moved from laboratory to field. Governments should task FAO with working with key partners and stakeholders to initiate and coordinate this task, as that organization has a unique mandate to reduce the world food deficit.

16. Governments should work towards agreement on global principles for sustainable and responsible land and water investment deals, including ongoing efforts to promote responsible agricultural investment (RAI), with particular

emphasis on protecting the rights and livelihoods of poor people who depend on these basic resources, while ensuring environmental sustainability.

17. Governments should establish and scale up integrated water resource management schemes, bearing fully in mind that water plays multifaceted roles, including for drinking, sanitation, agriculture, industry and energy.

18. Governments should commit to the establishment of regional oceans and coastal management frameworks in major marine ecosystems, including through:

(a) Enhanced cooperation in oceans and coastal management involving relevant stakeholders;

(b) Marine and coastal planning by countries in regional areas, taking into account the specific needs, ecosystems and users in their area and supported by solid funding mechanisms to develop and implement these plans;

(c) Building the capacity of marine managers, policymakers and scientists in developing countries, especially small island developing countries and other coastal States;

(d) Enhanced monitoring and surveillance systems.

19. Where regional fisheries management organizations are operating they should seek to make their policies and practices consistent with and support coordinated regional oceans management. Regional fisheries management organizations, Governments and marine managers should focus on an ecosystem-based approach to fisheries management in order to deliver improved economic and environmental benefits.

20. Governments should work in concert with appropriate stakeholders to ensure universal access to affordable sustainable energy by 2030, as well as seek to double the rate of improvement in energy efficiency and the share of renewable energy in the global energy mix. Governments and international organizations should promote energy-saving technologies and renewable energy through the incentivization of research and development and investment in them.

21. Governments should work with appropriate stakeholders to provide citizens, especially those in remote areas, with access to technologies, including universal telecommunications and broadband networks, by 2025.

22. Governments, international financial institutions and major companies should be encouraged to engage in international cooperation on innovation- and technology-oriented sustainable development on an enlarged scale, enhancing the technological capability of developing countries and taking full advantage of the potential roles played by climate-friendly technologies in dealing with global climate change and in developing a green economy. The agreements reached under the United Nations Framework Convention on Climate Change in Cancun and Durban are a good step in this direction.

23. Countries should work to ensure that all citizens are provided with access to basic safety nets through appropriate national efforts and the provision of appropriate capacity, finance and technology.

24. Governments should develop and implement policies to manage the economic and social impacts of transition and enhance resilience — in particular through

targeted social protection programmes and policies and by scaling up humanitarian capacities to deal with increasing environmental stress and potential shocks, where appropriate.

25. Governments and international organizations should accelerate efforts to produce regional exposure and vulnerability assessments and appropriate precautionary strategies to prevent adverse impacts on social and natural systems that are fully focused on people's needs, with priority accorded to the special needs of Africa, small island developing States, least developed countries and landlocked developing countries.

26. Governments and international organizations should increase the resources allocated to adaptation and disaster risk reduction and integrate resilience planning into their development budgets and strategies.

Recommendations for a sustainable economy

27. Governments should establish price signals that value sustainability to guide the consumption and investment decisions of households, businesses and the public sector. In particular, Governments could:

(a) Establish natural resource and externality pricing instruments, including carbon pricing, through mechanisms such as taxation, regulation or emissions trading systems, by 2020;

(b) Ensure that policy development reflects the positive benefits of the inclusion of women, youth and the poor through their full participation in and contribution to the economy, and also account for the economic, environmental and social costs;

(c) Reform national fiscal and credit systems to provide long-term incentives for sustainable practices, as well as disincentives for unsustainable behaviour;

(d) Develop and expand national and international schemes for payments for ecosystem services in such areas as water use, farming, fisheries and forestry systems;

(e) Address price signals that distort the consumption and investment decisions of households, businesses and the public sector and undermine sustainability values. Governments should move towards the transparent disclosure of all subsidies, and should identify and remove those subsidies which cause the greatest detriment to natural, environmental and social resources;

(f) Phase out fossil fuel subsidies and reduce other perverse or trade-distorting subsidies by 2020. The reduction of subsidies must be accomplished in a manner that protects the poor and eases the transition for affected groups when the products or services concerned are essential.

28. Governments, other public institutions such as universities, and international organizations should develop sustainable development criteria for their procurement, with the aim of achieving a shift towards cost-effective sustainable procurement over the next 10 years, and should issue annual public reports on their progress as from 2015.

29. Governments should develop standards for production and resource extraction to support the transition to a sustainable global economy. They should further

encourage widespread adoption and uptake by business of voluntary sustainability principles derived from international agreements and conventions.

30. Governments should promote and incentivize the inclusion of long-term sustainable development criteria in investment and transactions conducted by companies, including financial transactions. Business groups should work with Governments and international agencies to develop a framework for sustainable development reporting, and should consider mandatory reporting by corporations with market capitalizations larger than $100 million.

31. Businesses should seek to align their business practices with universally accepted principles concerning human rights, labour, environmental sustainability and the fight against corruption, such as those set forth in the Global Compact.

32. Given the importance of large pools of private and sovereign capital to enable the transition to sustainable development, we call on the following entities to explore a range of measures to apply sustainable development criteria, including:

(a) The boards of sovereign wealth funds and of national and international public pension funds, as well as other major financial institutions, in their investment decisions;

(b) Governments or stock market regulators, to adopt or revise regulations in order to encourage their use;

(c) Stock exchanges, to facilitate their application in the analysis of companies and their reports on compliance;

(d) Governments, to develop incentives and create an enabling environment by making boards of directors attentive to them (fiduciary duty);

(e) Governments and credit rating agencies, to integrate them into their respective risk assessments.

33. Governments, international institutions and international development banks should step up their efforts to promote sustainable development and to assess and monitor adequately the consequences of their policies in the social and environmental spheres. Multilateral and regional development banks and export credit agencies should apply sustainable development criteria, while considering country risks.

34. Governments and business should build strategic partnerships between themselves and local communities for the implementation of sustainable development investments.

35. Governments, international financial institutions and major companies should work together to create incentives for increased investments in sustainable technologies, innovations and infrastructures, including through the adoption of policies and targets that reduce investor uncertainty; the promotion of public-private networks to support research and development; the development of risk guarantee schemes and the provision of risk capital; and seed financing.

36. Governments should use public investment to create enabling frameworks that catalyse very substantial additional financing from the private sector, for example, through the provision of infrastructure, risk-sharing, viability gap funding or advance purchase commitments.

37. Governments should seek to incentivize investment in sustainable development by shaping investor calculations about the future through, in particular, the greater use of risk-sharing mechanisms and the enhancement of certainty about the long-term regulatory and policy environment. Measures could include targets for renewable energy or conservation, waste reduction, water conservation, access to carbon markets through the Clean Development Mechanism of the Kyoto Protocol or sustained prospects for public financing.

38. Governments and the financial sector should develop innovative partnerships to provide capacity-building and increased access to capital, as a means of incentivizing small and medium-sized enterprises and enabling them to take part in the new sustainable economy.

39. To measure progress on sustainable development, a Sustainable Development Index or set of indicators should be developed by 2014. To this end, the Secretary-General should appoint a technical task force, including relevant stakeholders.

Recommendations for strengthening institutional governance

40. As a basis for sustainable development, Governments should ensure the rule of law, good governance and citizens' rights of access to official information, public participation in decision-making and equal access to justice.

41. Governments should enable young people's participation in and influence on decision-making processes at the local, national and international levels. In addition, consultation processes and dialogue should be encouraged to incorporate voices from non-conventional networks and youth communities, such as Internet forums and opinion-making blogs.

42. Governments should adopt whole-of-Government approaches to sustainable development issues, under the leadership of the Head of State or Government and involving all relevant ministries for addressing such issues across sectors.

43. Governments and parliaments should incorporate the sustainable development perspective into their strategies, their legislation and, in particular, their budget processes. To this end, they should take into account the economic, social and environmental dimensions of such issues as poverty eradication, job creation, inequality reduction, unsustainable patterns of consumption and production, energy, climate change, biodiversity and green growth. They should explore ways to incorporate specific sustainability considerations into budget oversight, report publicly on relevant activities and make budgets accessible to their citizens.

44. Measures should be taken to strengthen the interface between policymaking and science in order to facilitate informed political decision-making on sustainable development issues. Representatives of the scientific community could be included as members or advisers in relevant national or local bodies dealing with sustainable development issues.

45. The Panel recognizes the universal aspiration to sustainable development. It also recognizes the diversity of national circumstances and of social, economic and environmental challenges. The Panel calls for a process to explore the concept and application of the critical issue of equity in relation to sustainable development, with a view to feeding the outcome into the Rio+20 process and its follow-up.

46. Bilateral donors, international institutions and development banks should step up their efforts to promote sustainable development in a comprehensive way and should monitor and report on the impact of their sustainable development policies on a regular basis.

47. As international sustainable development policy is fragmented and, in particular, the environmental pillar is weak, UNEP should be strengthened.

48. Governments should agree to develop a set of key universal sustainable development goals, covering all three dimensions of sustainable development as well as their interconnections. Such goals should galvanize individual and collective action and complement the Millennium Development Goals, while allowing for a post-2015 framework. An expert mechanism should be established by the Secretary-General to elaborate and refine the goals before their adoption by United Nations Member States.

49. The Panel endorses the Secretary-General's "Sustainable Energy for All" initiative, which should be implemented without delay.

50. The Secretary-General should lead a joint effort with the heads of relevant international organizations, including relevant United Nations agencies, international financial institutions, the private sector and other relevant stakeholders, to prepare a regular global sustainable development outlook report that brings together information and assessments currently dispersed across institutions, and analyses them in an integrated way.

51. Governments and the scientific community should take practical steps, including through the launching of a major global scientific initiative, to strengthen the interface between policy and science. This should include the preparation of regular assessments and digests of the science around such concepts as "planetary boundaries", "tipping points" and "environmental thresholds" in the context of sustainable development. This would complement other scientific work on the sustainable development agenda, including its economic and social aspects, to improve data and knowledge concerning socio-economic factors such as inequality. In addition, the Secretary-General should consider naming a chief scientific adviser or establishing a scientific advisory board with diverse knowledge and experience to advise him or her and other organs of the United Nations.

52. Governments should consider creating a global sustainable development council to improve the integration of the three dimensions of sustainable development, address emerging issues and review sustainability progress, with meetings held on a regular basis throughout the year. This body could be a subsidiary organ of the General Assembly and would replace the Commission on Sustainable Development. It would need to have a broad geographical and political membership and to fully engage relevant international institutions — including United Nations agencies and the international financial institutions — and non-State actors from civil society, the private sector and science.

53. Such a council would develop a peer review mechanism that would encourage States, in a constructive spirit, to explain their policies, to share experiences and lessons learned, and to fulfil their commitments.

54. Governments should also use existing institutions in a much more dynamic way, including by using the period between the holding in 2012 of Rio+20 and 2015

for deliberate review and experimentation, in order to incorporate tested solutions into any post-2015 development framework and institutional reform.

55. The Secretary-General should expedite the development of a sustainable development strategy for the United Nations system in order to contribute to coherence, better define responsibilities among United Nations bodies, reduce overlap and duplication and improve accountability for implementation. The strategy should be reviewed by all relevant United Nations bodies and governing boards, with a special effort being made to forge a unified view among countries common to all boards and processes.

56. The Secretary-General should make full use of the United Nations as the world's meeting place, convening periodic high-level exchanges on sustainable development when leaders meet at the opening of the new session of the General Assembly. Such gatherings should be used to set the agenda and address emerging issues by bringing together Heads of State or Government, heads of international institutions and representatives of civil society and the private sector.

Annex II

Members of the High-level Panel on Global Sustainability*

Co-Chairs

Tarja Halonen	President of Finland
Jacob Zuma	President of South Africa

Other members (in alphabetical order)[a]

Sheikh Abdullah Bin Zayed Al Nahyan	Minister for Foreign Affairs of the United Arab Emirates
Hajiya Amina Az-Zubair	Former Senior Special Assistant and Adviser to the President of Nigeria on the Millennium Development Goals
Ali Babacan	Deputy Prime Minister of Turkey
James Laurence Balsillie	Chair of the Board of the Centre for International Governance Innovation, Canada, and former Co-Chief Executive Officer of Research in Motion
Alexander Bedritsky	Adviser to the President of the Russian Federation, Special Envoy for Climate and President Emeritus of the World Meteorological Organization
Gro Harlem Brundtland	Former Prime Minister of Norway, former Director-General of the World Health Organization, and Chair of the World Commission on Environment and Development
Micheline Calmy-Rey	Former President and former Minister for Foreign Affairs of Switzerland
Julia Carabias Lillo	Environmentalist and former Secretary of the Environment of Mexico
Gunilla Carlsson	Minister for International Development Cooperation of Sweden
Luisa Dias Diogo	Member of Parliament and former Prime Minister of Mozambique
Han Seung-soo	Chair of the Board of Directors of the Global Green Growth Institute and former Prime Minister of the Republic of Korea

* Panel members' titles as at the time of the submission of the report to the Secretary-General. Panel members served in an expert capacity and without remuneration. Most Panel members covered their own travel expenses.

[a] The sixth Prime Minister of Barbados, the Honourable David Thompson, served on the Panel until his untimely death on 23 October 2010.

Yukio Hatoyama	Member of the House of Representatives and former Prime Minister of Japan
Connie Hedegaard	European Commissioner for Climate Action, and former Minister for the Environment and former Minister for Climate and Energy of Denmark
Cristina Narbona Ruiz	Member of Congress, former Permanent Representative to OECD and former Minister of the Environment of Spain
Jairam Ramesh	Minister of Rural Development of India
Susan E. Rice	Permanent Representative to the United Nations and member of the Cabinet of the President of the United States
Kevin Rudd	Minister for Foreign Affairs and former Prime Minister of Australia
Freundel Stuart	Prime Minister of Barbados
Izabella Mônica Vieira Teixeira	Minister of the Environment of Brazil
Zheng Guoguang	Administrator of the China Meteorological Administration

Ex officio

Janos Pasztor	Executive Secretary of the High-level Panel on Global Sustainability

Annex III

Terms of reference*

Background

1. Increasing strains and crises in recent years point to the deterioration of the natural environment. The changing climate is one key manifestation. We are reaching, and increasingly overstepping, planetary boundaries. Efforts to reach the Millennium Development Goals and other social and economic targets are hampered by the inability to agree on decisive and coordinated action in national and multilateral fora. This reveals the weaknesses of our governance structures and our outdated development models. It shows the limits of our current approach, which continues to deal with individual symptoms rather than the causes and their interrelationships.

2. Based on views expressed at the Summit on Climate Change on 22 September 2009 and inspired by the report *Closing the Gaps*, prepared by the Commission on Climate Change and Development, the Secretary-General decided to set up a High-level Panel on Global Sustainability to address these issues.

Scope

3. The main objective of the Panel is to reflect on and formulate a new vision for sustainable growth and prosperity, along with mechanisms for achieving it. It will address three sets of key issues:

3.1. New development paradigm:

- How to get to a low-carbon/green economy
- How to build resilient economies — especially for the most vulnerable
- How to eradicate poverty
- How to achieve sustainable modes of consumption and production
- How to provide for development in a carbon-constrained world

3.2. Mechanisms for putting into practice a new development paradigm, including any necessary adjustments to the institutional architecture and financing at the global and national levels.

3.3. Transparent collection, compilation, assessment and disclosure of relevant data and information by public and private entities, with a view to enabling the above.

4. The Panel will have a special focus on climate change as a sustainable development challenge, addressing its three pillars, namely economic, social and environmental. It will undertake its reflection on and formulation of a new vision for sustainable growth and prosperity by assessing strategic solutions to climate change as an example, as an entry point to the management of a global issue/global challenges. In addition to climate change, other challenges which will be used to

* The terms of reference were given to the Panel by Secretary-General Ban Ki-moon upon the launch of the Panel in August 2010.

develop and test the new vision for sustainable development may include food, water and energy security, as well as poverty reduction.

Organization of work

The Panel

5. The Secretary-General will appoint the Panel members, including the co-chairs. Panel members will serve in an expert capacity and will provide advice to the Secretary-General. Panel members will include current and past Heads of State and Government Ministers, as well as individuals who have provided exceptional contributions to the issues dealt with. The membership of the Panel will reflect geographic, competency, political and gender diversity.

The secretariat

6. A secretariat will be set up to support the Panel. The Secretary-General will appoint the head of the secretariat, who will be accountable to him, while working closely with the Panel co-chairs and members. The Panel and its secretariat will consult widely with governments, intergovernmental processes, United Nations system entities, as well as individuals, organizations and networks of civil society, academia and the private sector, with a view to collecting information and generating ideas relevant to the work of the Panel. To the extent possible, use will be made of existing mechanisms and occasions for consultation and knowledge-sharing, but the Panel may also initiate its own events and activities, if it deems it necessary.

Timeline

7. The Panel will complete its work by publishing its report in December 2011. Three in-person meetings of the Panel will be organized during this period. Additional interactions may be organized by electronic means with varied participation, as appropriate. The Panel may establish working groups led by one or two Panel members to prepare input on specific topics for its consideration.

8. A scaled-down secretariat is expected to continue for an additional six months in 2012 for outreach purposes. Individual Panel members, as appropriate and as possible, may also engage in outreach activities, supported by the secretariat. The 2012 United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil, and the process leading to it will offer exceptional opportunities to promote outcomes.

Outputs

9. The Panel will publish its analysis and recommendations in its final report. In the course of its work, the Panel will create platforms for discussion to generate input to its work. During the lifespan of the Panel and to facilitate its deliberations, a number of working papers and policy briefs may be prepared and made public as they become available.

10. Given the Panel's special focus on climate change, the Panel will seek to prepare such additional policy briefs in ways to best address the climate negotiations process, taking into account its own time schedule.

Annex IV

Sherpas and advisers

For Tarja Halonen
Sherpa: Hannu Kyröläinen
Advisers: Ann-Marie Nyroos, Pekka Shemeikka

For Jacob Zuma
Sherpa: Lindiwe Zulu
Advisers: Judy Beaumont, Thembani Mabandla

For Sheikh Abdullah Bin Zayed Al Nahyan
Sherpa: Sultan Al Jaber
Advisers: Omar H. Shehadeh, Mohamed Abushabab and Aimee Elise Barnes

For Hajiya Amina Az-Zubair
Sherpa: Adamu Emozozo

For Ali Babacan
Sherpa: Kemal Madenoğlu
Advisers: Sema Bayazit, Sitki Ersin Esen

For James Laurence Balsillie
Sherpa: David Runnalls
Advisers: Paul Jenkins, Jordan B. Peterson, Simon Zadek

For Alexander Bedritsky
Sherpa: Dinara Gershinkova

For Gro Harlem Brundtland
Sherpa: Marianne Loe

For Micheline Calmy-Rey
Sherpas: Peter Maurer, François Voeffray, Paul Seger
Advisers: Thomas Heimgartner, Lorenz Kurtz

For Julia Carabias Lillo
Sherpas: Roberto Cabral, Germán González-Dávila

For Gunilla Carlsson
Sherpa: Torgny Holmgren
Advisers: Ann Uustalu, Tove Skagerwall

For Luisa Dias Diogo
Sherpa: Fortunato Albrinho
Advisers: Rogério Wamusse, Celmira da Silva, Egidio Domingo Fumo

For Han Seung-soo
Sherpa: Tae Yong Jung
Advisers: Jihwan Park, Jin Young Kim

For Yukio Hatoyama
Sherpas: Kenji Hiramatsu, Shinsuke Sugiyama
Advisers: Akiko Suzuki, Takuma Kajita, Naoko Ueda, Kohei Nakamura, Osamu Yamazaki

For Connie Hedegaard
Sherpa: Michael Starbaek Christensen
Adviser: Christian Friis Bach

For Cristina Narbona Ruiz
Sherpa: Eduardo Orteu
Adviser: Javier Cachón

For Jairam Ramesh
Sherpa: Varad Pande

For Susan E. Rice
Sherpas: Elizabeth Cousens, Jonathan Pershing
Advisers: Lynne Gadkowski, Corinne Graff, Hillary Schrenell

For Kevin Rudd
Sherpa: Howard Bamsey
Advisers: Benjamin Craig, Katy Lin

For Freundel Stuart
Sherpa: Selwin Hart
Advisers: Keith Franklin, Travis Sinckler

For Izabella Mônica Vieira Teixeira
Sherpa: André Corrêa do Lago
Advisers: Fernando Antônio Lyrio Silva, Fernando Coimbra, Claudia de Borba Maciel, Fernando de Azevedo Silva Perdigão

For Zheng Guoguang
Sherpa: Luo Yong
Advisers: Zhou Botao, Hu Ting

Annex V

Secretariat

Staff

Janos Pasztor (Executive Secretary)

Georgios Kostakos (Acting Deputy Executive Secretary)

Christine Alfsen-Norodom

Julie-Ann Brown

Lee Cando

Maria Dada

Tanya Hogan

Clare Kane

Katell Le Goulven

Florian Lux

Tracy Raczek

Cynthia Scharf

Frank Schroeder

Celine Varin

Jin Zhang

(Short-term secondments and assignments)

Salvano Briceño, Inter-Agency Secretariat of the International Strategy for Disaster Reduction

Annika Savill, United Nations Democracy Fund

Jana Simonova, United Nations Population Fund

Youba Sokona, Economic Commission for Africa

Consultants

John Drexhage

Alex Evans

Alex Kirby

Julie Larsen

Paul Raskin

Amy Ward

Annex VI

Meetings, related consultations and events

Meetings of the High-level Panel on Global Sustainability

- Panel meeting 1: 19 September 2010, New York
- Panel meeting 2: 24 and 25 February 2011, Cape Town
- Panel meeting 3: 16 and 17 May 2011, Helsinki
- Panel meeting 4: 18 and 19 September 2011, New York
- Panel meeting 5: 13 and 14 December 2011, New York
- Panel meeting 6: 11 and 12 January 2012, New York

Sherpa meetings

- Sherpa meeting 1: 20 and 21 October 2010, New York
- Sherpa meeting 2: 23-26 January 2011, Braunwald (Switzerland)
- Sherpa meeting 3: 23 and 26 February 2011, Cape Town
- Sherpa meeting 4: 13 and 14 April 2011, Madrid
- Sherpa meeting 5: 15 and 18 May 2011, Helsinki
- Sherpa meeting 6: 31 August and 1 September 2011, Beijing
- Sherpa meeting 7: 17 and 20 September 2011, New York
- Sherpa meeting 8: 23 and 24 October 2011, New York
- Sherpa meeting 9: 18-20 November 2011, Bonn
- Sherpa meeting 10: 12 and 15 December 2011, New York
- Sherpa meeting 11: 10, 13 and 14 January 2012, New York

Related consultations and events

- Green growth expert meeting, organized by the Global Green Growth Institute: 14 and 15 January 2011, Seoul
- Consultation between Panel members and United Nations system heads: 27 January 2011, Davos
- Informal high-level dialogue between the Panel and Member States, convened by the President of the General Assembly: 16 March 2011, New York
- Meeting between Panel members and United Nations system heads: 16 March 2011, New York
- Meeting between Panel sherpas and the International Trade Union Confederation: 12 April 2011, Madrid
- Fourth United Nations Conference on the Least Developed Countries: Panel consultation with least developed countries on green growth: 10 May 2011, Istanbul

- Panel members at Nobel Prize laureates symposium: 18 May 2011, Stockholm
- Regional expert meeting on global sustainability in Asia: 30 August 2011, Beijing
- Panel lunch with civil society representatives: 18 September 2011, New York
- Panel lunch with private sector representatives: 19 September 2011, New York
- High-level dialogue between the Panel and Member States, convened by the President of the General Assembly: 20 October 2011, New York

Acknowledgements

The members of the High-level Panel of the Secretary-General on Global Sustainability wish to extend their deepest appreciation to the Governments, organizations, institutions, United Nations entities and individuals who provided valuable perspectives, ideas and support throughout the course of the Panel's work.

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The Panel also extends its appreciation to the following entities of the United Nations system for lending their experts and providing substantive support for its work:

(a) From the United Nations system: the Food and Agriculture Organization of the United Nations, the International Fund for Agricultural Development, the International Labour Organization, the International Monetary Fund, the International Telecommunication Union, the Global Compact, the High-level Task Force on the Global Food Security Crisis, the Department of Economic and Social Affairs of the Secretariat, the United Nations Development Programme, the Economic Commission for Africa, the Economic Commission for Europe, the Economic Commission for Latin America and the Caribbean, the United Nations Environment Programme, the United Nations Educational, Scientific and Cultural Organization, the United Nations Population Fund, the United Nations Industrial Development Organization, the Inter-Agency Secretariat of the International Strategy for Disaster Reduction, the United Nations Non-Governmental Liaison Service, the Advisory Board on Water and Sanitation, the United Nations Entity for Gender Equality and the Empowerment of Women, the World Food Programme and the World Bank;

(b) Other organizations and research institutes: the Centre for International Forestry Research, the Centre for International Governance Innovation, the Agricultural Research Centre for International Development, Columbia University, the Commission on Sustainable Agriculture and Climate Change, the Danish Institute for International Studies, the Gates Foundation, the Global Green Growth Institute, the Global Carbon Project, the International Council for Science, the International Energy Agency, the International Institute for Sustainable Development, the International Renewable Energy Agency, the International Trade Union Confederation, the International Union for Conservation of Nature, the Organization for Economic Cooperation and Development, the Stockholm Resilience Centre, Tellus Institute, Tsinghua University, the World Business Council for Sustainable Development, the World Economic Forum and Yale University.

The Panel also wishes to thank the civil society organizations that shared their valuable ideas and views during a series of consultations coordinated by the United Nations Non-Governmental Liaison Service. The full list of contributors from civil

society is available from www.un-ngls.org/gsp. Furthermore, the Panel interacted at various meetings with senior representatives of the following organizations: CIVICUS: World Alliance for Citizen Participation, ETC Group, the Global Campaign for Climate Action, the Huairou Commission, Oxfam International, Stakeholder Forum, SustainUS and the World Resources Institute.

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All of these contributions and support are gratefully acknowledged and warmly appreciated.